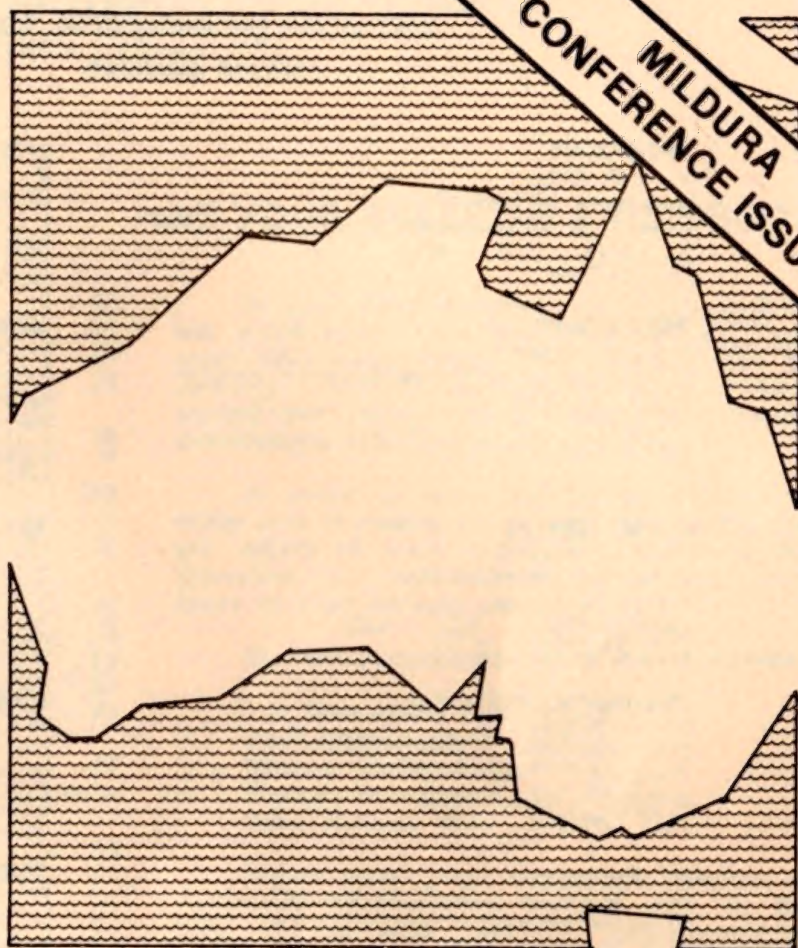


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CONFERENCE ISSUE**

NEWS BULLETIN

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AUSTRALIAN ENTOMOLOGICAL SOCIETY

OFFICE BEARERS

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Dr. E.M. Exley
Department of Entomology
University of Queensland
ST. LUCIA. QLD. 4067.
(07) 3773658

SECRETARY

Dr. P.B. Carne
CSIRO Division of Entomology
G.P.O. Box 1700
CANBERRA. A.C.T. 2601.
(062) 465077

CHIEF EDITOR

Dr. N.W. Heather
D.P.I. Entomology Branch
Meiers Road
INDOOROOPIILLY. QLD. 4068.
(07) 3779382

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Qld. Institute of Medical Research
Bramston Terrace
HERSTON. QLD. 4006.
(07) 529222

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Bramston Terrace
HERSTON. QLD. 4006.
(07) 529222

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Entomology Department
University of Queensland
ST. LUCIA. QLD. 4067.
(07) 3773640

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(062) 465861

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Entomology Department
Waite Institute
PMB No 1
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(08) 797901

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CSIRO Division of Entomology
G.P.O. Box 1700
CANBERRA. A.C.T. 2601.
(062) 465293

BUSINESS MANAGER

Mr. J.F. Donaldson
D.P.I. Entomology Branch
Meiers Road
INDOOROOPIILLY. QLD. 4068.
(07) 3779419

PUBLIC OFFICER

Dr. P.B. Carne
CSIRO Division of Entomology
G.P.O. Box 1700
CANBERRA. A.C.T. 2601.
(062) 465077

NEWS BULLETIN EDITOR

Dr. G.B. Monteith
Queensland Museum
Gregory Terrace
FORTITUDE VALLEY. QLD. 4006.
(07) 522716

ASSISTANT NEWS BULLETIN EDITOR

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Queensland Museum
Gregory Terrace,
FORTITUDE VALLEY.Q.4006

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AUSTRALIAN ENTOMOLOGICAL SOCIETY NEWS BULLETIN

TABLE OF CONTENTS

Executive Report	51
Address Changes	53
Missing Members	53
New Journal	53
Inaugural Award of Ian Mackerras Medal	54
Mildura Conference - Organizers Report	55
Scenes from the Mildura Conference	56
Presidential Address - T.O. Browning	57
Annual Report, May 1984	61
Minutes of 15th A.G.M.	65
Auditors Report	67
Financial Statements	68
Key to Mildura Conference Photograph	72
Mildura Conference Photograph . .	73-74
Regional News	
Northern Territory	69
Western Australia	70
South Australia	71
Victoria	76
Australian Capital Territory . .	77
Tasmania	81
New South Wales	81
Queensland	83
Association of Pacific Systematists	85
News from Affiliated Societies	
Entomological Society of New South Wales	86
Entomological Society of Queensland	86
Royal Zoological Society of New South Wales	86
Entomological Society of Victoria	86
Le Souef Memorial Award	87
Overseas News	
Papua New Guinea	88
New Zealand	88
Research Request	88
Obituary - S.H. Christian	89
Book Notice	91
Postgraduate Projects - A Supplement	92
Institute of Biology	93
New Export/Import Legislation . .	94
Advance Notice of Next A.G.M. . .	95
Society Publications for Sale . . .	96
Membership Nomination Form	97

HAS YOUR BULLETIN A RED SPOT?

If your News Bulletin has a red spot on the front cover then you have not yet paid your 1984 subscription which became due on January 1st. If your subscription remains unpaid then you will receive no further Society publications after November this year.

In order to keep the Society's books in order and to ensure its proper functioning you are urged to send your subscription to the Treasurer at his address inside the front cover at your earliest convenience.

Current subscription rates are as follows:

Full Membership	\$30.00
Joint Membership	\$35.00
Retired Membership	\$15.00
Student Membership	\$15.00
News Bulletin Only	\$10.00

Please make your remittance payable to Australian Entomological Society and, in the case of overseas members, in Australian Dollars. If you have paid within the last few weeks, please disregard this reminder. If you believe you have paid some time ago then please let me know.

Tom Weir
Treasurer.

COPY DEADLINE FOR NEXT ISSUE

Material for publication in the November issue of the News Bulletin should be sent to the Bulletin Editor at his address opposite to arrive by Friday, October 19.

NOTICE

MATERIAL IN THIS BULLETIN DOES NOT NECESSARILY REPRESENT THE VIEWS OF THE AUSTRALIAN ENTOMOLOGICAL SOCIETY, AND SHOULD NOT BE REFERRED TO OR REPRODUCED WITHOUT PERMISSION OF THE AUTHOR OF THE MATERIAL.

EXECUTIVE REPORT

Meetings

This is the first report of the Canberra-based Executive, which met on 24th May and 15th June.

Membership

Since the last Executive Report there have been 13 new members elected and 2 resignations. Total membership is now 652. Membership records are still being up-dated. The geographic distribution is as follows:

QLD 148	VIC 75	TAS 26
NSW 147	SA 69	NT 12
ACT 96	WA 28	Overseas 51

Assistants to Society Officers

Executive has appointed Dr I.D. Naumann (CSIRO, Canberra) as Assistant Secretary, Mr R.S. McInnes (CSIRO, Canberra) as Assistant Treasurer, and Mr G.I. Thompson (Queensland Museum, Brisbane) as Assistant News Bulletin Editor.

Executive Procedures

New in-home procedures have been adopted to streamline Executive business. Regular monitoring of membership status and prompt up-dating of records held by the Secretary, Treasurer, News Bulletin Editor and Business Manager are of particular concern.

Society Records, Accounts

Society records and bank accounts have now been transferred from Sydney to Canberra.

Auditor

Duesbury's of Canberra have been appointed auditors to the Society.

Conservation and Environment Quality Committee

Executive has agreed that the Conservation Committee (Convenor Dr T.R. New) should remain in being, but that the inactive Environment Quality Committee would not be re-appointed until an evident need arose.

Members Financial Status

Members who fail to pay the current year's subscription by August will receive the August issue of the News Bulletin bearing a red spot on the cover, and an insert indicating that no further publications will be sent to them after the end of 1984 until subscriptions are paid.

Constitution and By-laws

Copies of the Society Constitution and By-laws will be sent to all members as supplements to a future issue of the News Bulletin.

Journal Printing Quality

Dissatisfaction with the quality of printing of some copies of the journal and of some reprints has been expressed. The Chief Editor requests that any complaints in this regard be made promptly so that the matter can be taken up with the printer.

Newly Elected Members

Election of the following members was announced in the previous News Bulletin, but details of interests (here given) were omitted:

Mrs L.A. Ballantyne (Wagga Wagga, NSW). Leslie is interested in the taxonomy of fire flies, and in particular the Luciolinae.

Mr C. Easton (Murwillumbah, NSW). Clive's interests include agricultural entomology, insecticide resistance in *Heliothis* and the biology and control of mosquitoes and biting midges.

Mr M.E. Stone (Biloela, Qld). Michael is a private consultant on insect pest management.

Mr G.R. Allen (Lindfield, NSW). Geoff is interested in ecology, behaviour and applied entomology, and has been with the Malaria Research Unit since February 1983.

Dr D.J. Campbell (Wollongong). Jim is interested in insect behaviour, especially of the field cricket.

Mr G. Everingham (Sydney). Gary is a post-graduate student (M.Agr.Sc.) in the Department of Plant Pathology and

Agricultural Entomology, University of Sydney.

Mr G. Reidy (Sydney). Gordon is a research student in the Department of Plant Pathology and Agricultural Entomology, University of Sydney.

Miss A.A. Stasiliunas (Ringwood, VIC). Akiulina is an Honours student at La Trobe University.

Mr R.B. Tomkins (Box Hill, VIC). Ray has a general interest in pest management.

Mr D.G. Williams (Burnley, VIC). David is currently the project leader of the apple pest management programme and predatory mite programme at the PRI.

Miss K.L. Hergstrom (Rostrevor, SA). Kaye is interested in insect pest management.

Mr S.J. Hill (Hyde Park, SA). Stuart is interested in almond pollination and honey bee foraging behaviour.

Mr I.C. Barrass (Tatura, VIC). Ian has worked on the two spotted mite at the Plant Research Institute and has now moved to Tatura to continue the project.

Ms D. Lacis (Seacliff Park, SA). Dzintra is interested in the Odonata.

Mr A. Kotze (Rydalmere, NSW). Andrew is a post-graduate student at the University of Sydney.

Mr D. McCorquodale (ACT). David's research interest is the behaviour of sphecid wasps.

Elected 24th May 1984

Dr I. Abbott, Institute of Forest Research, Hayman Road, Como, WA 6152. Ian is a forest ecologist interested in the effects of insects on tree ecology.

Ms D. Campbell, 17 Primula Street, Lindfield, NSW, 2070. Diane is a technical officer interested in scolytid and platypodid beetles, incurvariid leaf miners, phasmatids and lantana leaf miners.

Mr G.J. Daglish, Department of Entomology, University of Queensland, St Lucia, Qld, 4067. Greg is a post-graduate student interested in insect-host plant ecology and Heliothis ecology.

Mr J.C. Hamilton, Department of Entomology, University of Queensland, St Lucia, Qld, 4067. John is a post-graduate student interested in population ecology and applied ecology.

Mr R. Paton, 135 Theodore Street, Curtin, ACT, 2605. Bob is a plant quarantine entomologist.

Mrs S. Rononuwu, Department of Entomology, WART, Glen Osmond, SA, 5064. Saartje is interested in the bionomics of clover stem borer and pathogens associated with Oryctes rhinoceros L.

Mr S. Williams, 52 Cabernet Drive, Hackham, SA, 5163. Stephen is a company director with a general interest in entomology.

Mr M. Wegecsanyi, 66 Tyden Street, Camberwell, VIC, 3124. Michael is a stored products entomologist with an interest in volatile grain protectants.

Elected 15th June, 1984

Dr M.J. Beech, District Hospital, Ingham, Qld, 4850. Michael is a medical practitioner interested in Odonata and Lepidoptera.

Dr F.B. Michaelis, 16 Lanomia Street, Launceston, Tas, 7250. Frances is a research scientist with the Forest Ecology Research Fund of Tasmania, and is interested in aquatic entomology, especially the ecology of running waters.

Mr M.M. Stevens, CSIRO Division of Entomology, GPO Box 1700, Canberra, ACT, 2601. Mark is a research assistant in the Hemiptera section of the ANIC, with a particular interest in the Homoptera.

Mr C.A. Wilson, 21 Pitman Court, Malak, NT, 5793. Colin is interested in the biocontrol of weeds.

Resignations (effective from 31 December 1984):

Mr D. Farrugia, 87 Rossmoyne Street, Thornbury, VIC, 3071.

Dr D. De Boer, PO Box 13, Ridgely, TAS, 7321.

ADDRESS CHANGES

Please help us to address your Society publications correctly by promptly forwarding to the Secretary any changes or corrections to your current title, name or address. In the following list of up-dates the State or Country of previous address is given in parentheses:

DR P.C.E. BAILEY, School of Aust. Env. Studies, Griffith University, Nathan, QLD. 4111 (SA).

MR T.V. BOURKE, Private Bag, Apia, Western Samoa (Western Samoa).

MR B.M. BRAITHWAITE, Killo Place, Kurrajong, NSW, 2758 (NSW).

MR G.P. BROWNING, c/- CSIRO Entomology, GPO Box 1700, Canberra, ACT 2601 (SA).

PROFESSOR T.O. BROWNING, 7 Slope Crescent, Burnside, SA 5066 (SA).

DR S.C. CAIRNS, School of Biological Sciences, Zoology Building (A08), University of Sydney, Sydney, NSW 2006 (NSW).

DR P.E. COOMBE, Entomology Department, Waite Institute, PMB No. 1, Glen Osmond, SA 5064 (West Germany).

DR D.J. COOPER, 80 Swaine Avenue, Toorak Gardens, SA 5064 (SA).

MR M.S. CHEERS, PO Box 181, Armidale, NSW 2350 (NSW).

DR D. DE BOER, PO Box 13, Ridgley, TAS 7321 (TAS).

DR P.B. EDWARDS, PO Box 6031, Coffs Harbour Plaza, NSW 2450 (South Africa).

MR J.D. GILLET, 50 Piso, Paseo de la Reforma 195, 06500 Mexico 5, D.F. Mexico (NT).

DR D.T. GWYNNE, Zoology Department, University of Western Australia, Nedlands, WA 6009 (Canada).

DR H.A. MARIATH, Entomology Department, Waite Institute, PMB No. 1, Glen Osmond, SA 5064 (West Germany).

MR A. MOLYNEUX, Entomology Department, Waite Institute, PMB No. 1, Glen Osmond, SA 5064 (West Germany).

DR G.J. SHANAHAN, 32 The Crescent, Dee Why, NSW 2099 (NSW).

MRS S.L. SMITH, CSIRO Entomology, GPO Box 1700, Canberra, ACT 2601 (ACT).

MR J.E. VAN SOMEREN GREVE, CSIRO Entomology, GPO Box 1700, Canberra, ACT 2601 (ACT).

MISSING MEMBERS

We have lost contact with the following members. It would be appreciated if anyone knowing their current address could advise the Secretary at his address inside the front cover.

Dr P.C. Nigam (formerly of Ontario, Canada).

Dr M.J. Smart (formerly of Karrinyup, WA).

Mrs J. Tan Choo Haw (formerly of Singapore).

Dr D.J. Campbell (formerly of Wollongong).

NEW JOURNAL

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Volume 1 and 2 now available. Cost, \$40.00 US per volume.

Entomography is an annual publication for studies on the biosystematics of insects or related arthropods. It has been established to accommodate papers of more than 10 printed pages, for a reasonable charge, on various aspects of insect biology, evolution and systematics. Each volume will include approximately 500 pages. If warranted, more than one volume can be produced in a given year. Each copy is bound in hardcover, stamped on spine and front, suitable for Library shelves.

INAUGURAL AWARD OF THE IAN MACKERRAS MEDAL 1984



ABOVE: A delighted Tony Watson after receiving the first Ian Mackerras Medal.
BELOW: Front and rear views of the medal itself.

The inaugural award of the Ian Mackerras Medal for Excellence in Entomology was made at the Conference Dinner at the TAFE College, Mildura on May 15. The recipient was Tony (J.A.L.) Watson of the CSIRO Division of Entomology in Canberra. In making the presentation, the immediate past President Tom Browning described the various aspects of Tony's career beginning with his days as a Ph.D. student at Cambridge when Tom was also resident in that university on sabbatical study. These included an account of an Aussie-engineered 'mutiny' against the Cambridge Departmental administration of the day - an account which the Medal recipient, also by this time fortified with the excellent speech-making stimulants provided by Greg Buchanan et al, did little to deny.

Tom Browning outlined the major contributions that Tony Watson had made to entomological science in topics that included physiology and endocrinology, taxonomy, development and caste function in termites, taxonomy and biology of dragonflies and other areas such as insect zoogeography. This research has been published in over 100 publications in scientific journals and books and has established his reputation as a world authority in these fields of work.

In his response, Tony pointed out that he considered the award to be a recognition of a team rather than an individual effort, and he emphasised the contribution that both his support staff and divisional colleagues, as well as his wife and family had made towards much of his research.



MILDURA CONFERENCE ORGANIZER'S REPORT

REPORT ON THE 15TH ANNUAL GENERAL MEETING AND CONFERENCE

The 15th Annual General Meeting and Conference was held at the Sunraysia College of Technical and Further Education (TAFE), Mildura, from 12th to 15th May, 1984. There was a total of 110 delegates in attendance, including 75 ordinary members, 28 student members, and 7 non-members. There were 27 delegates from Victoria, 32 from New South Wales, 28 from South Australia, 9 from A.C.T., 10 from Queensland, 3 from Tasmania, and 1 from Western Australia.

Most delegates were accommodated at the TAFE college, which provided a mixture of single, twin and double rooms in several units with shared kitchen facilities. Remaining delegates stayed at the Mildura Country Club.

An informal Barbecue on the Saturday night at the Sunraysia Horticultural Research Institute, began the official proceedings. Apart from the sausages and rissoles delegates' palates were introduced to a number of local wines. These all had the desired effect of promoting discussions on a wide range of topics (including some on entomology!) - late into the night.

On Sunday the scientific sessions began at the TAFE college, the major theme of the conference being "Practical Pest Management". Over the three rather "solid" days of sessions a total of 49 papers were presented. There were 3 invited papers: Professor Stuart Gage from Michigan State University spoke on Information Resources for the Applied Entomologist, Dr George Rothschild (CSIRO Division of Entomology) discussed The Use of Insect Pheromones for Pest Management - with special reference to Lepidoptera, and Dr Eric Sinclair (Queensland Department of Primary Industries) covered Insect Pest Management in stored grain in Australia. All these papers and the supporting contributed papers and their nine displays were well received.

The Annual General Meeting was held at the TAFE college on the Sunday evening and was immediately followed by Professor Tom Browning's Presidential Address, which is reproduced elsewhere in this New Bulletin.

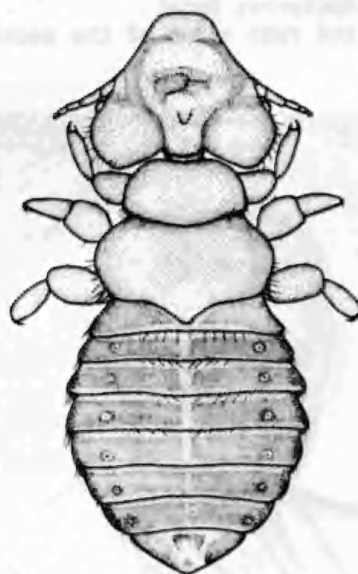
The Society Dinner, held on the Monday evening, was introduced by Greg Buchanan who provided information on a number of delightful red and white wines, which had been donated by The Bonnonee, Mildura and Lindemans wineries of Sunraysia.

The highlight of the evening was the inaugural presentation of the Ian Mackerras Medal for Excellence in Entomology to Dr J.A.L. Watson of the CSIRO Division of Entomology.

All in all the TAFE College provided an ideal venue for the Conference, and the Conference delegates provided the material for interesting and informative sessions.

The Organising Committee thanks all those people who helped in the running of the Conference. The chairman and women, projectionists, TAFE College staff, Horticultural Research Institute staff, Barbecue Chefs, Minibus drivers, Mrs Jennifer Buchanan, the local wineries, and of course the delegates themselves, all combined to provide a most fruitful Conference.

G.N. Berg
G. McDonald
G.A. Buchanan
T.R. New
Organising Committee.





SCENES FROM THE MILDURA CONFERENCE. 1. (L. to R.) Jenny Gage, Steve Gagen, Garry McDonald, Janet Comery and Peter Bailey provide some "musical" entertainment at the dinner. 2. Alan Clift samples one of the local wines provided. 3. Stuart Gage (L.), one of the invited speakers, with Terry Amos, Principal Entomologist in the Victorian Agriculture Department. 4. An opaque Peter Stahle with a cassette of transparencies.

PRESIDENTIAL ADDRESS



(Presidential Address by Professor T.O. Browning to the 15th Annual General Meeting of the Australian Entomological Society, Mildura, Victoria, May 13, 1984)

"IN YOUNG STUDENTS LIE THE HOPE AND FUTURE OF OUR DISCIPLINE"

There is little left of the 20th Century and one can look no farther back than that, so I want to address myself mainly to students, for on them lies the future and the hope for our discipline. And I want to look ahead, but before I do it seemed wise to look back - back over my own period of activity in entomology - to try to see how we got to the place where we now stand.

My acquaintance with Entomology stems from the end of the second World War, from 1946, when the Universities were crowded with thousands of young men, and some women, anxious to make up for six years lost at the War. I was a year ahead of the main mass of students, having completed my first year before the War, in 1939, and thus had the advantage of smaller classes, and less

competition. But most of the competitors were straight from school and terribly hard to beat. In this environment I was attracted to entomology by the quiet magic of a great teacher, A.R. Woodhill, who inspired many of Australia's leading entomologists of that generation.

Entomology is a strange discipline, being only a branch of zoology, which is, itself, only a part of biology, yet it is often represented in Universities and other institutions by separate departments, cut off from other cognate biological groupings by administrative and geographical barriers (being on different floors can seriously impede the flow of ideas between groups). Having come up through zoology I have often reflected on this state of affairs and I believe it stems from two main sources. Because insects are abundant, fairly large on average, and often brightly coloured, they have attracted the attention of amateur naturalists who have amassed huge collections which are housed in museums, and their very mass makes it easy for separatists to argue for distinct departments. Secondly of course, some insects are important to man; many because they cause loss and despoliation of his crops, stored products and his artefacts. They are obvious and attract much attention and it has thus proved possible for ambitious entomologists to interest politicians to provide money for their study and to set up institutions dedicated to their control. It is of interest to reflect that the activities of insects in agriculture run a poor third to the depredations wrought by weeds and plant pathogens, yet only recently have the latter received adequate scientific attention, and the study of weeds is still largely in the hands of chemical companies.

But of course insects are important not only in agriculture. Many are vectors of disease in man, his crops and his stock, causing untold misery and loss. But they are rarely obvious and their connection with disease is obscure and it is only relatively recently that serious attention has been paid to them, and money applied to their study.

I believe it is true that, throughout the world, most entomologists are involved in agriculture. Despite this ascendancy of agricultural entomology it is humbling to remember that the only Nobel Prize ever awarded to an entomologist went to the discoverer of the relationship between Anopheles and malaria, Ronald Ross, in 1902, who unravelled a much more intricate biological puzzle than those encountered as a rule by

agricultural entomologists.

At the end of the War, 1946, thinking in entomology was dominated by the advent of the first synthetic organic contact insecticide, D.D.T. and it was being hailed as the panacea, together with benzene hexachloride as a fill-in for those species that did not respond graciously to D.D.T. - in particular Hemiptera and soil-living insects.

A mosquito was heard to complain
That a chemist had damaged her brain,
The cause of her sorrow
Was para-dichloro-
Diphenyl-trichloro-ethane.

It was an euphoric period. Yet entomologists had already had experience with the phenomenon of resistance to insecticides - the red-scale *Aonidiella aurantii* was known to be resistant to HCN in California, and the codlin moth had recently developed resistance to lead arsenate in many apple-growing areas, but almost no attention was paid to the possibility of resistance developing to D.D.T. This was perhaps because the other examples were such isolated instances, and little or nothing was known of the physiology underlying the phenomenon. This is a good example of the results of isolation of disciplines, because at that time the biochemistry of the cytochrome system was being unravelled by Keilin, and the insensitivity of B-cytochrome to cyanide was known, yet it was many years before the relevance of the switch from C-cytochrome to B-cytochrome was shown in the respiratory system of red-scale.

The mosquito in the verse I just quoted,
lived for a while and laid some eggs, and

The end of this sad little rhyme
Was chaos - for after a time
It was found she had left
In her offspring, bereft,
A dechlorinating enzyme.

(I owe the first of these verses to the newsletter of the Women's Electoral Lobby, South Australian Branch).

Even today, although the phenomenon of resistance to lethal chemical compounds, and to other agents of death too, has become ubiquitous, and although a clear understanding of the underlying causes is emerging; the physiological, genetic, behavioural, ecological and practical causes, still very little real attention is paid to it by the authorities

responsible for overseeing the control of insect pests. They may pay lip service, but consumption of insecticides continues to increase. You who are now students will soon be in positions of authority, responsible for advising on strategies for the control of pests. I hope you keep the high probability of the development of resistance in the forefront of your minds, but nevertheless with as deep an understanding of the nature of the phenomenon as possible, for although ubiquitous it is not universal, and for good reasons. *Heliothis armiger* is notorious for the rapidity with which it develops resistance to newly applied poisons, whereas *H. punctiger* has not done so, yet both occur in the same crops and are almost equally devastating. I hope you understand the reason for the difference.

The current interest in so called "Integrated Control" is due almost entirely to the development of resistance in so many species of pest, and only rather marginally, I believe, to the deleterious efforts of the widespread use of non-selective toxins on man and other organisms.

Since I went back to the University as a student great changes have occurred in our understanding of biological processes, all of which have relevance in entomology - academic and applied. I list six that seem to me to be perhaps of special importance:

1. Paper chromatography
2. The structure of D.N.A.
3. The development of ethology
4. Ecological theory
5. Isotopic tracers
6. Electron microscopy

I have chosen these six advances in science because they illustrate a duality that I think is often misunderstood. Three of my examples, the discovery of the structure of D.N.A., the rise of ethology and the emerging development of ecological theory, are conceptual advances; ideas that clarify our thinking and that lead immediately to new experiments and still further elucidation of nature. The other three are technological advances that make it possible to measure more accurately or to visualize more precisely. Such advances are often thought of as of less importance, less profound, than purely conceptual leaps, an attitude that reflects, I believe, a lingering Aristotelianism among scientists. But consider how the ability to measure changes one's way of thinking.

When I first went to Sydney University in

1939 it was well known that most of the oxygen in the atmosphere derived from the photosynthetic reaction between carbon dioxide and water. And of course people wondered idly whether the oxygen came from the CO_2 or the water or from both. But it was idle curiosity, not a serious scientific question, because there was no way of following an atom through a reaction chain. When I went back to the botany department in 1946 the problem had become real and had been solved, as a result of the ready availability of isotopic oxygen and other isotopes, which together with the mass spectrometer and Geiger counter refined during the Manhattan project, had made such problems elementary and opened the way to unravelling untold questions which it had not occurred to anyone to ask before.

The discovery of the property of filter paper to impede the progress of molecules in relation to their configuration and their electrical properties, made it possible to separate closely related chemical species at very low concentrations. Whereas in 1946 most good organic chemists would talk in milligrams when asked to separate or determine compounds, now they ask if you can smell it - have you got a few nanograms - six orders of magnitude less. And with other techniques deriving from quite different disciplines we can often go down a further three orders or more - down into the range of quantities found in single cells. We can now sensibly discuss the flux in concentration between several complex molecules differing in only one or two atoms, or only in configuration, because the original discovery has been amplified so ingeniously. And now nuclear magnetic resonance spectroscopy is opening the way to non-destructive chemical analysis of living tissue - a new leap forward.

Nevertheless, the most profound change in our thinking came about in Cambridge, in 1952, when I was a young post-doctoral student in V.B. Wigglesworth's laboratory. The nature and significance of D.N.A. has changed all our thinking in biology and we are close to understanding the mode of action of the gene. And this brings me to the last part of this dissertation, where I want to look forward a little, and to try to suggest some of the tasks that will confront you all, but especially our younger members.

There are myriad fields of interest in the life of insects, all important and worthy of study; the intricacies of the pheromone system that is being shown to be so dominant in insect behaviour, to influence their

physiology, and whose understanding is, I believe, going to revolutionize the practice of pest control; the taxonomy of important and "difficult" groups; the interplay of the hormones; the role of predators, parasites and pathogens in influencing the changes in numbers in insect populations; these are only a few important fields. But today biological science has become expensive, and virtually all the cost is met by the taxpayer who, very naturally, wants to see that her money is being wisely spent, and that means, spent in the public interest, and fairly obviously so. Thus we entomologists must needs work in fields of public concern - even though only remotely - and be prepared to explain our work in terms that can be appreciated by outsiders. And to conclude I want to touch on two fields that cry out for more work, one of which had been badly neglected and the other barely thought of by entomologists.

The first subject I want to broach is the technique of population control that has become known as the "sterile insect release method", devised by Knipling in the '30's and since used successfully virtually only by the United States Department of Agriculture. I believe that this lack of exploitation of a brilliant idea is due, very largely, to the serious misunderstanding of its basic premises by senior entomological administrators throughout the World. I was once accused of irresponsibility for suggesting its use against Dacus tryoni, on the grounds that D. tryoni is known to mate more than once, and that precluded the use of the technique! And I am sure that this method of pest control, or eradication, is capable of much wider application than it has received. In Australia only a single, well conceived, but badly underfunded study has been carried through - although I believe another is underway, and we shall hear about it later. The technique depends absolutely on detailed quantitative knowledge of many facets of the insect's ecology and physiology, and also on the economics and sociology of the system. It is high time a group was set up in Australia specifically to consider the application of this method and its variations, so that later it may become routine. The current CSIRO blowfly programme is a shining light but it should be broadened. For example, I doubt that the method is applicable to Dacus tryoni on the eastern seaboard, but I also doubt whether an economic analysis has been made of its feasibility elsewhere, except in Adelaide. It is possible that the annual invasions in areas west of the Dividing Range could be handled more cheaply and effectively, by a centralized

scheme, and lead to economically viable backyard fruit production in a large number of centres, as occurs in Adelaide.

But to a more imaginative topic. Just two years ago it was shown that in *Drosophila* (which I admit is not really an insect, but a bag of polytene chromosomes invented by Morgan), it is possible to identify a particular segment of D.N.A. (bearing transposable elements) responsible for a specific phenotypic trait; to clone it in *E. coli*; to extract the D.N.A. and to inject it by syringe into the eggs of another strain of *Drosophila* not showing the trait. The injection was done at the embryonic stage when a few nuclei have migrated to the posterior pole of the egg and there form the germ-line precursors, but before cell membranes have separated them. The injected D.N.A. was incorporated into some of the germ-line chromosomes and in some of the progeny arising from these eggs the D.N.A. elements could be recognised, and in some, when adult, the trait was expressed and bred true. A character had been shifted from one strain to another deliberately and mechanically, without mating taking place.

It is true *Drosophila* is a special case, because of the enormous knowledge we have of its genetics, and of the techniques of manipulating screening processes. But I believe the way is now open for clever and dedicated people, in the next 20 years, to alter in specific ways the characteristics of chosen species. One can envisage, for example, transferring a desirable trait from one species of parasitic insect to another without the necessity of crossing different species. And this will open the way for imaginative biological control, which at present flounders in the dark.

(My genetical friends warn that it is dangerous to attempt to mend a watch with a crow-bar - but it was much more dangerous to envisage the Earth revolving round the Sun, as Galileo found to his cost).

The prospect is exciting, but two things will be necessary if entomologists are to play their proper part. First it is essential that clever young people are encouraged to train both as entomologists and as recombinant D.N.A. technologists, for only then will they be able to appreciate and guide us through the profound ecological and sociological problems that will face us as we perfect these techniques. Senior entomologists must see that that encouragement is forthcoming - and that will mean seeing that financial and moral

support is available for the gifted young as they struggle to gain the training, and the education that they will need. If this is not done, decisions will be made by inadequately informed people, and entomology will be left trailing behind.

But secondly, it behooves all of us to prepare ourselves for the great philosophical problems that the new technology has already raised. People, working mostly as biochemists and as medical and veterinary researchers, have already had to face such problems, but as the possibilities spread of manipulating species at a fundamental level all biologists will be caught up in the dilemmas raised. It is not the first time this century that scientists have faced profound philosophical problems:- Haldane and Needham, Einstein and Russell, Oppenheimer and Robinovitch, all contributed to our understanding of the responsibility that scientists must bear for the results of their knowledge - and now, I believe, we have reached a point where we humble entomologists as a group, must think our way through the future, and prepare ourselves to advise our fellows wisely, and to challenge cavalier ideas adamantly.

There is, of course, another way of looking at the world. Some of our older members may wish to join with old Khayam, saying:-

Oh, leave the wise to wrangle, and with
me
The riddle of the universe let be,
And in some corner of the Hubub couched
Make game of that which makes as much
of thee.



ANNUAL REPORT, MAY 1984

The Executive is pleased to present the Society's Fifteenth Annual Report, covering the period May 1983 to May 1984.

Executive Meetings

The Executive met on eight occasions. The Representative of the NSW Entomological Society attended meetings by invitation.

Change of Office Bearers

At the 14th Annual General Meeting, there were no changes to the Executive other than the appointments of Dr N.W. Heather and Mr R.H. Holtkamp as Chief Editor and Business Manager respectively. The Executive was:

President: Prof T.O. Browning
 Vice President: Assoc Prof F.J.D. McDonald
 Secretary: Dr K.R. Brown
 Treasurer: Mr G.A. Holloway
 Chief Editor: Dr N. Heather
 Public Officer: Dr P.B. Carne
 Business Manager: Mr R.H. Holtkamp

New appointments to Council were:
 Regional Councillors for:

Queensland: Dr I.D. Galloway
 Western Australia: Dr T.F. Houston
 Tasmania: Mr P.B. McQuillan

Representative Councillor for:

Ent. Soc. Qld.: Ms M.A. Schneider
 Ent. Soc. Vic.: Mr P. Carwardine

Other Members of Council were:

Immediate Past

President: Prof D.S. Kettle
 Technical Editors: Dr R. Domrow
 Dr M.P. Zalucki
 (part year) Dr E.R. Sinclair
 (part year) Dr B.H. Kay

Regional Councillors:

Queensland: Mr R.I. Storey
 New South Wales: Dr M.J. Fletcher
 Dr R.V. Cunnig
 Victoria: Dr T.R. New
 Mr G.N. Berg
 ACT: Dr H.J. Banks
 Dr P.J. Gullan
 South Australia: Ms P. Greenslade

Northern Territory: Dr M.B. Malipatil

Representative Councillors:

Ent. Soc. NSW.: Dr C.N. Smithers

Roy. Zool. Soc. NSW: Mr C. Chadwick

Membership

The continued rationalisation of the membership list has resulted in an overall decrease in the membership statistics*. Membership now stands at 591 (as of April 5, 1984) an overall decline of 52 members. Since May 1983, there have been 29 members elected to the Society (35 applications, some of which obviously are outstanding) and 2 resignations. A number of members have been excluded under the provisions of Clause 21(c).

The distribution* of members by states is currently:

NSW	132	SA	57	Overseas	46
QLD	134	WA	24	NT	12
ACT	91	VIC	70	TAS	25
TOTAL 591					

* CORRECTION

The membership statistics in the previous Executive's Annual Report are incorrect. Fifty-two members whose subscriptions were in arrears for 17 months were omitted from the count although they have until 31 December 1984 before their membership is subject to termination under Clause 21(c) of the Society's Constitution. They will, of course, be urged to pay their overdue subscriptions.

The correct membership statistics as at the date of the AGM were:

NSW	145	SA	65	Overseas	52
QLD	144	WA	26	NT	13
ACT	95	VIC	74	TAS	26
Address Unknown 3					
Total 643					

P.B. Carne
SECRETARY

Executive Appointments

Mrs K. Heather was appointed as Editorial Assistant in lieu of Mrs S. Hooper who resigned in December, 1982.

Dr G.B. Monteith was re-appointed News Bulletin Editor. It should be noted that as from the 15th Annual General Meeting, this position will be an elected position of Council.

Mr D. Rugg was appointed Assistant Secretary and Mr J.F. Donaldson was made Assistant Business Manager.

Organisation of the 15th Annual General Meeting

Victorian members were asked to form an organising Committee for the 15th Annual General and Scientific Meeting. The Committee consisted of Mr G.N. Berg (Chairman), Mr G.A. Buchanan, Mr G. McDonald and Dr T.R. New. The Vice President and Secretary were ex officio members.

Subscriptions Rates

The Executive recommends to Council that no change in the subscription rates should occur. The rates at present are

Full Member:	\$30.00 (\$25.00 if paid by March 1).
Student Member:	\$15.00 (\$12.50 if paid by March 1).
Retired Member:	\$15.00 (\$12.50 if paid by March 1).
Joint Members:	\$35.00 (\$30.00 if paid by March 1).

All new members are charged the full rate, irrespective of when they join. This small extra charge covers the increased postage rate and other miscellaneous charges.

Student Research Award

One entry was received this year and the referees recommended that an Award be made. The successful candidate was Mr David Raftos whose paper was entitled "Malathion Resistance in the Australian Sheep blowfly, Lucilia cuprina (Wiedemann)".

Student Travel Assistance to the Conference

Following the recommendation of the 26 Council, the Executive invited student members of the Society to submit applications for travel and accommodation assistance. Three

applications were considered favourably, and a total of \$511.00 granted towards the costs of the participants. The Executive hopes that this initiative be maintained in future years.

Treasurer's Report

As the Financial Statements show, the financial liquidity of the Society, is to say the least, excellent. As your Treasurer, I must thank the members for paying subscriptions on time, thereby reducing the arrears from over \$5000 to less than \$800! The News Bulletin Editor is also thanked for producing a Bulletin within budget guidelines. The Editors and Business Manager for producing a fine Journal on time and of excellent quality are also thanked. The other members of the Executive are also thanked for supporting me in the Society's investments and the day to day running of the accounts.

A number of accounts were increased from 3½ to 11½-13% interest rates. For example in 1979, we received \$695 in interest whereas in the last financial year (over 18 months) we received \$3,629, in addition to the \$1,593 in the Interest Bearing Deposits where the interest is added on and reinvested.

Despite rising postal costs, sales tax, printing costs and so on, the members should congratulate themselves on belonging to an active and financially successful Scientific Society. My thanks to all in my last year as your Treasurer.

G.A. Holloway
TREASURER

Chief Editor's Report

This report covers the period 1st May, 1983, to 31st March, 1984.

Production statistics for the Journal of the Australian Entomological Society during the period (with figures for 1983 in parentheses) were as follows:

<u>Manuscripts</u>		
Received	66	(73)
Accepted	32	(52)
Rejected	5	(17)
Withdrawn-Lapsed	3	(28)
Editing incomplete	53	
Awaiting printing of proofs	13	
Ready for publication	19	(104 pages)

The reason for the decline in numbers of papers offered is not known with certainty.

However I believe that it has also occurred with other similar journals in Australia. Of the 104 pages ready for publication 80 will go into Vol 23:2 due for publication by 30th May, 1984, and the others will go towards Vol 23:3. A number of thesis abstracts have been received and will be published in due course.

Publication

Volume:Part	Published	Pages	Papers	Book Reviews
22:2	30 May 83	96	15	4
22:3	26 Aug 83	96	23	5
22:4	30 Nov 83	96	20	3
23:1	24 Feb 84	80	13	4

It will be apparent that papers requiring minimal editing and refereeing could be published as quickly as the next issue but one after they are received, i.e. 3 to 6 months.

Implementation of page charges has gone smoothly. I believe that these have distributed the costs of publication more equitably than the previous reprint sale arrangement.

The quotation for Volume 23 received from our long standing printers Watson Ferguson reflected a general rise of 4.5% on the 1983 quote. This was considered to be very reasonable. Our costs per page even with editorial assistance remain substantially below those for journals employing professional publishers despite our smaller circulation.

Printing of the Directory of Australian Entomology was arranged during 1983 from excellent camera-ready copy prepared by Dr Phil Carne and helpers from CSIRO Canberra. This job also was undertaken by Watson Ferguson.

Editing and publication of our Journal is very much a team effort. I believe that the technical editors, Drs Bob Domrow, Myron Zalucki, Eric Sinclair and Brian Kay, and my wife Katie Heather as Editorial Assistant, have maintained the standard of technical excellence to which our Journal aspires. I wish to acknowledge their contributions with considerable gratitude. Dr Sinclair retired from his position as Technical Editor in mid 1983 and was replaced by Dr Kay. However, Dr Sinclair continued to edit those papers which were current so his contribution was, in effect, for the whole year. Also, the understanding and consideration of the Sydney Executive members have been most reassuring

whenever procedural problems have arisen.

N.W. Heather
CHIEF EDITOR

Business Manager's Report

There were a few gaps in data relating to last years report, unfortunately these gaps cannot be filled as I can find no record of the missing information. Details for this year are as follows:

	22.2	22.3	22.4	23.1
Journals printed	950	950	950	950
Journals posted	819*	829	845	?
Number of pages	96	96	96	80
Cost of printing Journal	\$5797.00	\$5797.00	\$5797.00	\$5118.00
Cost of printing Reprints	\$ 640.00	\$ 606.40	\$ 547.05	\$ 632.00
Cost of postage	\$ 241.52	\$ 253.82	\$ 253.82	\$ 238.57
TOTAL	\$6678.42	\$6657.22	\$6597.87	\$5988.57
Reprint income	\$2671.00	\$2840.00	\$2493.00	?
Owing on Reprints	nil	\$1789.00	\$2072.00	na

* approx 10 copies required replacement due to mishandling.

As can be seen from the income received from reprints, the introduction of page charges has had a significant impact on receipts. Before page charges were introduced, the average income per issue was approximately \$1700, this is considerably lower than the income shown above. However the monies from page charges still do not cover 50% of the cost of producing and distributing the Journal. Subscriptions cover a good deal of the outstanding costs but the Publications Account still requires transfers from the General Account to keep it financially viable.

The number of subscribers remains the same as last year although the list is in constant flux. Various institutions cancelled their orders for Volume 23 (no doubt due to increasing financial constraints which are being

felt everywhere) however, there have been new subscriptions entered into.

The projected computerisation of the subscriber list has not yet eventuated. It would have taken me a good deal of time to prepare the list and send this to Queensland and it was felt that matters could be simplified considerably if the list were to be entered directly from the subscriber cards. This can be more readily accomplished when the position of Business Manager returns to Queensland. Indeed the position of Business Manager is ideally situated in Brisbane, the location of the Editors and Publisher and in my opinion should not be separated from the centre of the Journal's workings. The separation causes difficulties and frustrations which are quite needless.

R.H. Holtkamp
BUSINESS MANAGER

News Bulletin Editor's Report

Four issues of the News Bulletin have been produced since the last AGM, totalling 117 pages. All have been mailed within the constitutional deadlines. Costs continue to be contained. The overall cost of Bulletin production for the calendar year of 1983 was the lowest for three years. Comparative figures are:

1981	\$3008
1982	\$2302
1983	\$2157

However recent increases of 20% in registered mailing rates and 50% in address label costs mean that it will become difficult to maintain this pattern if Bulletin quality is to be maintained.

A new scale of advertising charges was introduced during the year giving options for full-page, half-page and quarter-page rates. The News Bulletin has very wide circulation among Australian entomologists and as such has considerable advertising potential. The new format of the Bulletin is beginning to attract more contributed articles and it is to be hoped that this trend continues.

G.B. Monteith
NEWS BULLETIN EDITOR

Report on Environmental Quality Committee

No matters were referred to this Committee during the year.

Report of the Conservation Committee

No matters were referred to the Committee from the Executive. The Society was represented at the National Conservation Strategy meeting in Canberra by Dr R.W. Taylor. Members of the Committee continued to be active in more local issues, including surveillance of forestry operations in several States.

T.R. New
CONVENER

Ian Mackerras Medal

As a result of Council deliberations, a Steering Committee comprising Drs Carne, Marks, Monteith and Wharton and the President, Prof Browning, the Vice President, Assoc Prof McDonald and the Secretary Dr Brown, under the Chairmanship of Dr Marks, was set up to formulate regulations determining the selection procedure for candidates for the Mackerras Medal.

The recommendations of this Committee were published in the News Bulletin and nominations invited. Two nominations were considered by the Selection Panel of Past Presidents and invited Members under the Chairmanship of the President. A recommendation was submitted to, and then endorsed by the Executive, such that a Medal could be presented at this Annual General Meeting.

A Committee consisting of Dr G.B. Monteith (Chairman), Mrs S.R. Monteith and Dr E.N. Marks was formed to design the Mackerras Medal and have it produced in time for presentation.

Publications

As noted elsewhere, the Executive is pleased to be able to finally report that the Directory of Australian Entomology is not only completed but published. Much credit must be given to Dr Carne, CSIRO Entomology for organising this task which has evaded completion for so long.

The planned update of the address list to be published every two years in the News Bulletin has been deferred until the end of Volume 20 this year.

Constitutional Amendments

The Executive notes that the

membership approved the election of the News Bulletin Editor to Council, rather than being an Executive Appointment. The question was put in a postal ballot held in May, 1983, and rectifies a situation which has been allowed to persist for too long.

Acknowledgements

This is the final Executive Report of the Sydney based Executive, and as such we would like to thank all members of the Society who have assisted over the years. This Executive inherited many problems and no doubt, will pass on one or two, but we believe that the Society has prospered in many avenues in the last four years. Many difficult decisions have been made, perhaps the introduction of page charges being the hardest to accept, but once having been made, the Society has supported its elected officials. We have seen the publication of the Directory, the establishment of the Ian Mackerras Medal, a new Constitution which is still evolving, travel assistance to students, not to mention a new look News Bulletin and very real improvements to the Journal. The Executive has thanked many people in the past Reports, but would like to thank again now such people as Gordon Hooper and Neil Heather and their Technical Editors who have lifted the Journal, Geoff Monteith for the revamped News Bulletin, and the countless efforts of Phil Carne and Pat Marks. The retiring Executive wishes the new incoming Executive the best of luck and hopes that the next four or five years are as equally if not more productive for the Society. The Society now has the financial stability to be perhaps slightly more adventurous.

To the Organising Committee, Gordon Berg, Greg Buchanan, Garry McDonald and Tim New, again our thanks for what promises to be an excellent 15th AGM.

On behalf of the Executive.

F.J.D. McDonald
VICE PRESIDENT AND CHAIRMAN

K.R. Brown
SECRETARY.

MINUTES OF 15TH A.G.M.

MINUTES OF 15TH ANNUAL GENERAL
MEETING HELD AT SUNRAYSIA TAFE
COLLEGE ON 13TH MAY, 1984

Opening

The President, Professor T.O. Browning, opened the meeting at 2000 hrs in the presence of 57 other members.

Apologies

Apologies for absence were received from Dr G. Ettershank, Dr I. Griffith, Mr G. Hamilton, Dr N.W. Heather, Mr R.H. Holtkamp, Dr T.F. Houston, Dr E.N. Marks, Assoc Prof F.J.D. McDonald, Mr M.S. Moulds, Dr T.R. New, Mr D.J. Scambler, and Ms M. Schneider.

Proxies

Proxies were held by:

Dr C.C. Bower for Mr W.G. Thwaite
Dr K.R. Brown for Dr T.R. New
Dr P.B. Carne for Mr E. Hassan, Dr N.W. Heather and Dr G.B. Monteith.

Deaths Recorded in 1983/84

The Chairman announced with regret the deaths of 3 Society members:

Dr R.H. Wharton, 18th September, 1983
Prof M.J.D. White, 16th December, 1983
Dr W.V. Russell, 5 January, 1984.

He also noted the deaths of two non-members:

Mr V. Robinson, January, 1983
Mr R. Mascord, July 1983.

General Announcements

The Chairman announced that the award of the first I.M. Mackerras Medal for Excellence in Entomology would be made at the Society Dinner on 14th May. [The Medal was duly presented at the Dinner by Prof Browning to Dr J.A.L. Watson of the CSIRO Division of Entomology].

The Student Award was won by Mr David Raftos of Biological Sciences, Macquarie University, for a paper entitled "Malathion

Resistance in the Australian Sheep Blowfly". At 27 Council meeting it had been recommended that Mr Raftos, who had been unable to attend the 15th AGM, be invited to read his paper at the 16th AGM, and that his travel to that meeting be supported as it would have been to the present meeting.

Funds totalling \$511 had been granted for travel to three students attending the present Meeting: Ms A. Stasiliunas (Vic), Mr A. Alishah (Tas) and Mr Y.K. Prasad (SA).

Minutes of 14th Annual General Meeting

The Minutes of the 15th AGM, published in the News Bulletin (Vol. 19, Pt. 3), were taken as read and confirmed.

Correspondence

The Chairman referred to a letter he had received from a member complaining about two aspects of the Journal. First, the Journal's policy was considered to be too rigid about certain conventions, e.g. that all figures, irrespective of their number, should be numbered consecutively. The member urged that the prime criteria should be legibility, clarity and convenience to the reader. Secondly, printing was uneven in quality, particularly in reprints, and samples were provided to support this assertion. It was resolved (White/Clift) that the Executive should review the complaint with the Chief Editor.

Executive Annual Report

The Chairman was critical of the Executive for not having circulated the Report in advance of the meeting. The Secretary, Dr Brown, said that prior circulation had not been the practice of the present Executive and that the Report was customarily published in the August News Bulletin. At the direction of the Chairman the Secretary read the greater part of the 6-page Report, and the Treasurer subsequently spoke to his report which was contained in it. The Treasurer was warmly congratulated on the excellent state of the Society's finances.

Appointment of an Auditor

The Treasurer moved, seconded by Dr Smithers, that the nomination by the 27 Council Meeting of Duesburys Chartered Accountants of Canberra as the Society's Auditors for two annual terms be endorsed. The motion was put and carried unanimously.

Announcement of Office-bearers for 1984/85

The Secretary announced that only one nomination had been received for each office. Those appointed were:

Executive

President:	Dr E.M. Exley
Vice President:	Dr G.H.L. Rothschild
Secretary/ Public Officer:	Dr P.B. Carne
Treasurer:	Mr T.A. Weir
Chief Editor:	Dr N.W. Heather
Business Manager:	Mr J.F. Donaldson

Other Members of Council were:

Technical Editors:	Dr R. Domrow Dr B.H. Kay Dr M.P. Zalucki
News Bulletin Editor:	Dr G.B. Monteith
Immediate Past President:	Prof T.O. Browning
Immediate Past Vice President:	Assoc Prof F.J.D. McDonald
Immediate Past Secretary:	Dr K.R. Brown
Immediate Past Treasurer:	Mr G.A. Holloway

Regional Councillors for:

New South Wales:	Dr M.J. Fletcher Dr R.V. Gunning
Queensland:	Dr I.D. Galloway Mr A.P. Walford-Huggins
Canberra:	Dr P.J. Gullan Dr B.C. Longstaff
Victoria:	Mr G.N. Berg
Tasmania:	Mr P.B. McQuillan
South Australia:	Dr D.J. Cooper
Northern Territory:	Mr T.L. Fenner
Western Australia:	Dr T.F. Houston

Representative Councillors for:

Ent. Soc. Qld.:	Ms M.A. Schneider
Ent. Soc. NSW:	Mr M.S. Moulds
Roy. Zool. Soc. NSW:	Mr C.E. Chadwick
Ent. Soc. Vic.:	to be appointed

Subsequent Annual General Meetings

The meeting endorsed the proposal of the 27 Council Meeting that Tasmania be asked to mount the 16th AGM in 1985, South Australia the 17th AGM in 1986, and Western Australia

the 18th AGM in 1987.

Dr Smithers referred to the Report of the 15th AGM Organising Committee which expressed concern at the restrictions under which it had operated. It had received instructions from the Executive that it should limit the meeting to 3 days and that there should be no concurrent sessions. Dr Smithers recalled that, in earlier years, Organising Committees had not been so circumscribed. The Secretary pointed out that these were conditions imposed by the Council and had been passed on to the Organising Committee by the Executive.

Mr Allen spoke of the increased status of the Society's Scientific Meetings and suggested that the Society seek to take responsibility for the Australian Applied Entomology Conference series under the aegis of Standing Committee on Agriculture. By so doing, attendance at meetings would be more readily possible for Departmental entomologists.

Dr White expressed preference for innovative papers of a kite-flying nature rather than a diet of the purely applied papers which predominated at AAERCs. Mr Allen suggested that conferences could cover the range from applied to basic research by adopting concurrent sessions. Dr Rothschild pointed out that, with inevitable pressure to limit the duration of meetings, coverage of a broad range of research topics would necessitate concurrent sessions. However, such sessions could be avoided, but only by limiting papers to a narrow range of topics in any one year. The Chairman commented that members appreciated a mid-Conference break in the form of an excursion.

Dr Readshaw noted that AAERCs were held at 4-year intervals and suggested a compromise: have small conferences of the present kind for 3 years, then a broader and larger AAERC-type meeting in the 4th year. Dr White suggested that the Executive should attempt to poll members' views on the matter*.

* FOOTNOTE

The Executive is well aware of the high cost of conducting postal ballots, and that only a small proportion of members attend AGMs. Members who have views they wish to express on the various options discussed are welcome to make them known to the Executive through the Secretary. Such views will be taken into account when the Executive prepares guidelines for Organising Committees. Please send any comments by the end of September.

The Chairman moved, seconded by Dr Brown, that the new Executive be asked to issue a set of guidelines to Organising Committees, based upon Executive views and to views of members as expressed by this meeting. The Chairman proposed that the Executive consider allowing such Committees greater discretion in their planning of meetings and put the motion which was passed 55 in favour, 2 against.

Vote of Thanks to Organising Committee

Mr Holloway moved a vote of warm appreciation of the Organising Committee's efforts, particularly for their choice of a delightful venue and for their excellent organisation of the meeting. The identity of a seconder was lost in a vigorous round of applause by all present.

Presidential Address

The Vice President, Dr Rothschild, presented Dr Exley's apologies for absence owing to temporary indisposition, and invited Professor Browning to give his Presidential Address

Following the Presidential Address the Vice President closed the meeting at 1230 hrs.

AUDITOR'S REPORT

I was unable to observe the taking of physical inventory and the Society's records do not permit the application of satisfactory alternative audit procedures for determination of the existence of the stock on hand listed in the Balance Sheet and valued at \$7,815.

Since the last report a change has been made so that the financial year covers the calendar year from 1st January to 31st December and therefore these accounts are for an eighteen month period. As a result of the change members' subscriptions in advance and in arrears have not been taken up in the accounts.

Except for the matters referred to above, in my opinion the attached Balance Sheet and Income and Expenditure Statement which have been prepared under the Historical Cost Convention are properly drawn up in accordance with the rules and so as to give a true and fair view of the state of affairs of the Australian Entomological Society Incorporated at the 31st December, 1983 and of the results of the Society for the eighteen months ended on that date.

DATED THE 18TH DAY OF APRIL, 1984.

D.J.M. Crichton
CHARTERED ACCOUNTANT

FINANCIAL STATEMENTS

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY INCORPORATED BALANCE SHEET AS AT 31ST DECEMBER, 1983.

1982			
	ACCUMULATED FUNDS		
36,644	Balance 1st July, 1982	\$41,447	
(2,448)	Less Surplus (loss) for Year	(7,527)	
7,251	Publications	10,974	3,447
	General Account		
41,447	BALANCE 30TH JUNE, 1983	44,894	
	Represented by:		
	CURRENT ASSETS		
50	Cash on Hand	50	
8,029	Cash at Bank - General Account	9,952	
3,563	- Publications Account	4,294	
599	Subscriptions in Arrears	-	
8,000	Stock on Hand - At Cost	7,815	
20,241		22,111	
	INVESTMENTS		
5,000	Interest Bearing Deposits		
10,000	Publications	5,278	
7,000	General - No. 1	11,315	
	No. 2	7,000	
22,000		23,593	
42,241	TOTAL ASSETS	45,704	
	CURRENT LIABILITIES		
105	Subscriptions in Advance	-	
689	Sundry Creditors	810	
794		810	
41,447		44,894	
	TRUST FUND		
-	Ian Mackerras Memorial Fund	2,838	
-	Represented by -		
	St. George Building Soc		
	Account	2,838	
41,447	NET ASSETS	\$44,894	

GENERAL INCOME AND EXPENDITURE STATEMENT FOR THE EIGHTEEN MONTHS ENDED 31ST DECEMBER, 1983.

1982			
	INCOME		
14,935	Subscriptions Received	\$17,215	
1,821	Interest Received	3,629	
-	Surplus Funds - Annual General Meetings	4,290	
16,756		25,134	
	EXPENDITURE		
3,391	News Bulletin	4,004	
4,000	Salary - Editors Assistant	5,998	
815	CSIRO Publication Service	884	
436	Financial Accounting	605	
220	Audit Fees	300	
200	NSW Conference Expenses	-	
45	Annual General Meeting Expenses	600	
151	Stationery and Postages	334	
-	Ian Mackerras Memorial Medal Fund	1,085	
196	Petty Cash	303	
51	Bank Charges and Incidentals	47	
9,505		14,160	
7,251	OPERATING SURPLUS	\$10,974	
	PUBLICATIONS INCOME AND EXPENDITURE STATEMENT FOR THE EIGHTEEN MONTHS ENDED 31ST DECEMBER, 1983.		
1982			
	INCOME		
11,609	Subscriptions Received	\$11,701	
689	Interest Received	1,433	
5,869	Sales	11,467	
18,167		24,601	
	EXPENDITURE		
8,000	Opening Stocks	1.07.82	8,000
8,000	Closing Stocks	31.12.83	7,815
-			185
19,668	Printing Costs	29,427	
456	Stationery and Postages	1,648	
473	Petty Cash	860	
-	Bank Charges	8	
18	Subscription - Queensland	-	
20,615		32,128	
(2,448)	OPERATING DEFICIT	(\$7,527)	

REGIONAL NEWS



NORTHERN TERRITORY

CSIRO Division of Entomology

Mark Lonsdale and Cathy Beurle arrived in Darwin in June to commence work on the biocontrol of Mimosa pigra, a noxious weed that is threatening the floodplains and wetlands of the great top end river systems.

Ken Harley of CSIRO Longpocket Laboratories visited in June to assist with the settling-in of the above biocontrollers.

Establishment of the introduced Acanthoscelides spp., bruchids that attack seeds of M. pigra, is proceeding slowly. Recoveries were made in July, 6 months since the last field release.

D.P.P. Weeds Section

Ken Harley visited in June for discussions with Colin Wilson on biocontrol of Mimosa pigra and Salvinia molesta.

The introduced Cyrtobagous weevil is well established on the aquatic fern Salvinia molesta in the Howard River and the Finniss River. Weevils from the latter were released into Magela Creek in June and at Mission Hole in July.

D.P.P. Agricultural Quarantine Service

Working jointly with Bill Yarrow of Queensland D.P.I., Ted Fenner has been heavily occupied with the rearing and release of a new introduction of the palm leaf beetle parasite, Tetrastichus brontispae. The new individuals, derived from field collected New Caledonian material which was quarantined in Brisbane for one generation, are conspicuously larger than the laboratory culture stock tried previously, which apparently failed to establish in Darwin. The release programme should be completed by the end of July and will be followed by systematic attempts to recover the parasites from the field.

Health Dept., Medical Entomology Branch

Geoff Davies, Wendy Kelton and Andrew

Masters carried out a mosquito survey of many of the tourist areas in Kakadu National Park. They trapped in a wide diversity of habitats, and some of the catches in the vicinity of the wetlands have been very large.

Peter Whelan visited Alice Spring to attend a co-ordination meeting between various agencies involved in mosquito control there. While in the Centre, Peter and Andrew Masters surveyed mosquitoes at Hermannsburg and Yulara (Ayer's Rock). The new resort at Yulara has already been colonised by Culex quinquefasciatus.

The Mosquito Eradication Campaign began in Alice Springs and many other Territory centres. Ms Marta Laskowski has been employed under the scheme to identify mosquito samples. The examination of many thousands of larvae from many centres of population has confirmed the absence of Aedes aegypti from the Northern Territory.

For the annual Bougainvillea Festival parade in Darwin, the Department prepared a float with a 4.5 m long by 2.5 m high replica of A. aegypti. Many youngsters skated alongside it, distributing colour posters and bumper stickers with the slogan "Don't be a sucker for a sucker". Public interest was high.

Peter Liehne visited Sydney, Brisbane and the Gold Coast, conferring with various experts on mosquitoes and biting midges as part of the investigations on biting insects at Palmerston, Darwin's new satellite town.

Northern Territory Museum

Mali Malipatil returned to Darwin on 24th April from his Churchill Fellowship visit to the British Museum (Natural History), London, Naturhistoriska Riksmuseet, Stockholm and Museum National d'Histoire Naturelle, Paris, where he managed to examine the types of nearly 70% of the known Australian reduviid species. Riksmuseet has some unidentified material of several terrestrial hemipteran groups accrued during Mjoberg's expeditions (1910-13) to northern Australia. Interested workers may contact the Curator, Dr Per Lindskog.

Ian Naumann, Phil Carne and Bob Taylor (ANIC, Canberra) visited the Museum briefly

to examine the collections of their special interest. During Ian Naumann's visit, he spoke to Darwin members of the Society and showed slides illustrating his studies on the mud wasps which nest on rock faces in many parts of tropical Australia. Where the rocks have been used by Aboriginal artists, this can lead to serious defacement of the paintings and no practical, long term solution to the problem is yet in view.

Ted Fenner
Regional Councillor.

WESTERN AUSTRALIA

On 15th June, the Art Gallery of Western Australia in Perth formed the venue for an open 'entomological dinner'. Organized by the Regional Councillor with encouragement and support (and not a little prodding) from local Society members, it was attended by 37 people and proved to be a most enjoyable evening.

The gathering included professionals, students, amateurs, spouses and friends and virtually all of the organisations with a finger in entomology were represented. Eight speakers were marshalled between courses to talk briefly of the work occurring in their departments or being pursued by themselves. Even the merciless use of the RC's whistle couldn't dampen the enthusiasm of some orators!

Two approaching events in Western Australia that will involve local entomologists are the Mediterranean Ecosystems (MEDECOS) Conference at the University of Western Australia, 13-17th August, and the Forestry Entomology Workshop at Busselton, 17-21st September.

WA Department of Agriculture

Rob East from the Plant Research Institute in Burnley, Victoria, visited the Entomology Branch for a few days in July to discuss the sterile fruit fly programme, Argentine Ants and the European Wasp (the last species, incidentally, was recently intercepted in a freight container at Geraldton).

In June, Nick Monzu represented Western Australia at the National Blow Fly Working Party Committee meeting in Sydney. The

Committee had as its aim to see if there was any extension message from the symposium late last year and to formulate priorities for blow fly research in the future. Nick reports that the early warning system for prevention of body strike will undergo its final test during the spring blow fly period this year on 20 commercial properties throughout Western Australia. Additionally, the Western Australia Blow Fly Group has recently undertaken co-operative trials with private industry to test novel insecticides and methods of application. The exposure house and fly breeding complex in which 100 sheep can be optimally pressured with gravid *Lucilia cuprina* day and night for long periods makes the operation the most rapid and unique facility in Australia.

Andrew Sproul spent a week in Brisbane during July to attend the Fresh Fruit Disinfestation Committee Meeting.

CSIRO Division of Entomology

Lindsay Barton Browne and Jane Wright spent a few days with their Perth colleagues discussing the dung beetle research programme in late May. They then went on to the dung beetle research unit in Pretoria where Jane will work for the next three years.

CSIRO Division of Wildlife & Rangelands Research

Dr Denis Saunders whose principal interest is bird ecology has secondarily become a surveyor of insect life on Rottnest Island. His project on community structure of birds on the island has led him to look at insects as a food resource and he has carried out pit-trapping and incidental collecting of insects to assist with analysis of bird faecal contents.

WA Institute of Technology

Jonathan Majer, School of Biology, recently performed a week's fieldwork near the Hamersley Range National Park studying variation in ant faunas in different mulga communities. Whilst there, his path almost crossed that of Peter McMillan who was looking for remnant populations of the south-western ant, *Iridomyrmex conifer*.

In the meantime, Tony Postle headed in the opposite direction to Boddington where he is performing a baseline premining invertebrate survey for a bauxite mining company.

University of WA

Darryl Gwynne recently returned to the Zoology Department where he will work for three years on an ARGS grant studying orthopteran mating systems.

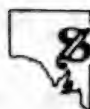
Murdoch University

Territoriality and resource partitioning is the subject of an Honours project recently commenced by Ms Lorna Charlton under the supervision of Ron Wooller, School of Environmental and Life Sciences. The project will be pursued part-time over two years.

WA Museum

Honorary Associate Peter McMillan is having a long stint (June - August) in the Pilbara to collect insects and generally enjoy himself. Peter telephoned to advise of his first consignment of specimens and complained that there was not much because of the cool damp conditions prevailing. On receiving 13 filled pinning boxes from him, staff shuddered to think of the work Peter will cause them when the sun comes out!

Terry Houston
Regional Councillor.

**SOUTH AUSTRALIA**South Australian Museum

Bob Domrow, (Queensland Institute of Medical Research) is to visit the Museum shortly - his interest is in studying Womersley's dermanyssid mites. Penny Greenslade has recently been on a collecting trip to Tasmania and Victoria, collecting topotypes of Womersley's species of Collembola. By all accounts the trip was a successful one. Lynette Queale, who has been absent from the Museum on maternal leave, will take up duties again at the end of July, and Dzintra Lacis, who has been standing in for Lynette, will remain at the Museum until the end of August.

University of Adelaide, Zoology Department

Shelley Barker has returned from the British Museum, via California where he visited his daughter at UCLA and also had meetings with other coleopterists. Graham Browning has now left the Department to spend most of

the remainder of his Ph.D. candidature at ANIC.

CSIRO Division of Soils

Ken Lee and John Buckerfield have been carrying out field work on termites at Kakadu, N.T., in collaboration with CSIRO Divisions of Wildlife and Rangeland Research. John Greenslade has just returned from a symposium in Canada on soil fauna and structure at which he spoke about soil insects. Barry Hutson is still away in the U.K.

Department of Agriculture

Dennis Hopkins has just departed to spend a month in China; Dennis is involved in the Australian Noctuid Mission, and will spend his time surveying noctuid populations and collaborating with Chinese entomologists.

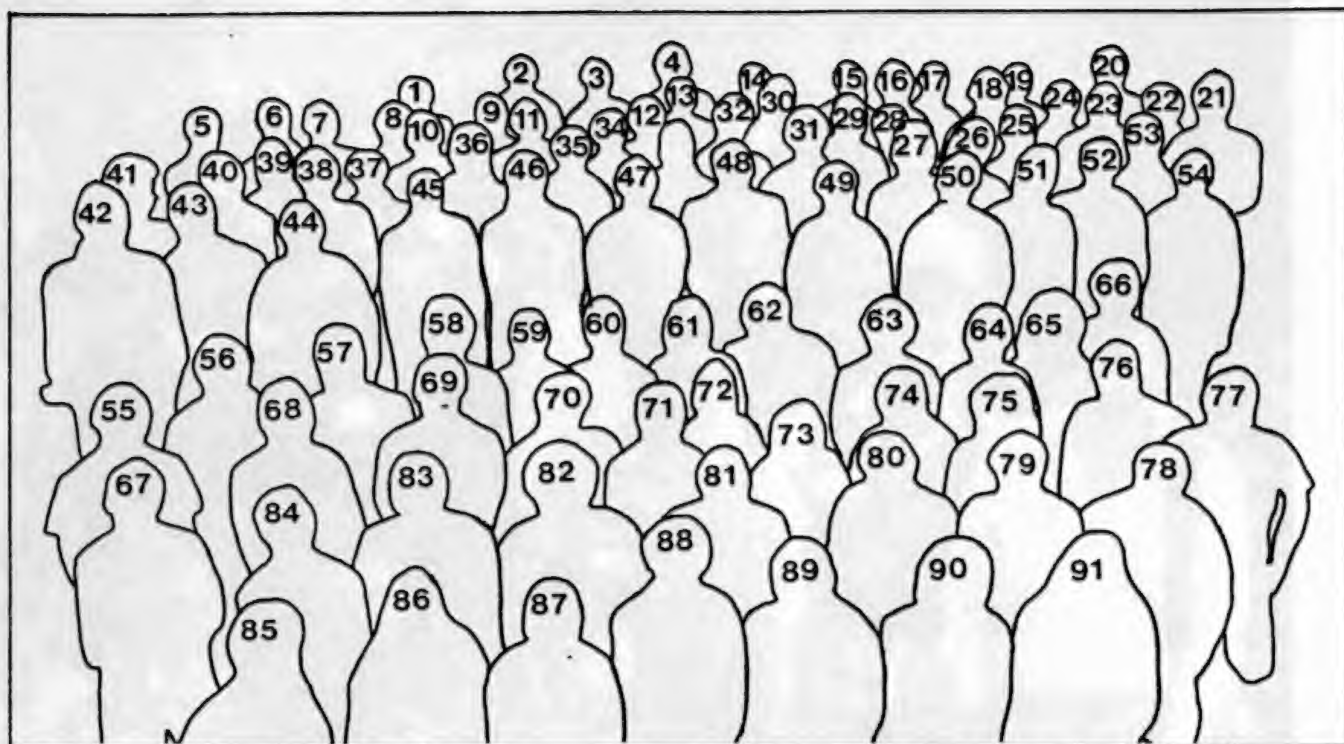
Peter Allen, Peter Bailey and Paul Madge attended the recent Australian Entomological Society Annual Conference at Mildura, and then stayed to attend the Field Crop Entomology Group Meeting. Geoff Baker is off to Portugal again in August, where he will be looking for diptera parasites of the Portuguese millipede near Lisbon. Geoff is planning to spend time at Montpellier en route, and will also visit Dr Robert Cowie, University College, London, for discussions on the biological control of snails. He will also go to Manchester to talk with Dr J.G. Blower about millipedes, and Geoff also intends to return to his old stamping round, Dublin, and no doubt will take time out to sample a tankard or two of Guinness.

Gabriella Caon recently returned from a 5 day walking trip to Katherine Gorge National Park, Northern Territory. She was accompanied by entomologist Colin Wilson.

Greg Baker was visited recently by Asif Alishah (University of Tasmania), who has a mutual interest in integrated control of Brassica crops. The two spent a day visiting commercial cabbage growing properties.

Peter Allen will depart soon for Prague, where he will deliver two papers at a Symposium on the Ecology of the Aphidophaga (September, 1984).

Peter Bailey had a taste of "industrial entomology" earlier this year, at the Moomba Gas Fields. He was called in to investigate an outbreak of the green carab beetle (*Calosoma*



KEY TO MILDURA CONFERENCE PHOTOGRAPH

1. Dr. D.E. Pinnock	24. Mr. D.S. Morris	47. Dr. P. Bailey	70. Prof. S.H. Gage
2. Mr. G. Buchanan	25. Dr. T.G. Amos	48. Dr. P.B. Carne	71. Mr. G.D. Murphy
3. Mr. L.L. Walker	26. Ms P. Greenslade	49. Ms. K. Hergstrom.	72. Mr. R.B. Tomkins
4. Mr. D. Rugg	27. Mr. M. Smith	50. Mr. D. Giltrap	73. Dr. P.J. Gullan
5. Dr. K.R. Brown	28. Mrs. F. Shuter	51. Mr. A. Doronila	74. Miss. M. Jackson
6. Mr. R. Coles	29. Mr. G. McDonald	52. Dr. W.W.K. Houston	75. Miss D. Adidharma
7. Mr. .D. Dall	30. Dr. A. Clift	53. Dr. J. French	76. Mr. G.P. Sheldon
8. Mr. D.R.J. Smith	31. Dr. G. P. Fitt	54. Dr. P. Williams	77. Dr. G.H. Baker
9. Dr. R. Laughlin	32. Mr. R.C. Russell	55. Mr. J. Osmelak	78. Mr. R.J. Faulder
10. Mr. S.P. Frances	33. Dr. J.A.L. Watson	56. Mr. S.J. Hill	79. Dr. E. Exley
11. Prof. T.O. Browning	34. Dr. E. Sinclair	57. Mr. G. Taylor	80. Mr. G.N. Berg
12. Dr. P.E. Madge	35. Mr. R.E. Teakle	58. Mr. J.R.E. Hardy	81. Dr. C.C. Bower
13. Dr. T.C.R. White	36. Mr.D. McG. Ewart	59. Ms C Thomson	82. Mr. S.J. Gagen
14. Dr. C.N. Smithers	37. Mr. G.R. Allen	60. Mr. D. McCorquordale	83. Mr. A.S. Molyneux
15. Miss. C. Stone	38. Mr. C.Freebairn	61. Dr. Y. Suzuki	84. Mr. R. Ramachandran
16. Mr. P.G. Allen	39. Mr. R. Bibson	62. Mr. A. Alishah	85. Dr. P. Stahle
17. Mr. N.W. Forrester	40. Mr. D. Williams	63. Ms. S. Constable	86. Miss J. Comery
18. Dr. P. Gregg	41. Mr. I.C. Barrass	64. Miss J.D. Farr	87. Mrs. S. Rondonuwu
19. Prof. D.S. Kettle	42. Mr. M. Perry	65. Mrs. A. Hill	88. Ms. J. Birve
20. Dr. R.P. Field	43. Mr. A. Rath	66. Dr. G.H.L. Rothschild	89. Mrs. S. Baterman
21. Mr. G.A. Holloway	44. Dr. J. Madden	67. Dr. D. Cooper	90. Ms. M. Kleinig
22. Mr. E. Jones	45. Miss. A. Stasiliunas	68. Dr. J.R. MacFarlane	91. Dr. R. Gunning
23. Mr. T.A. Weir	46. Mrs. M.A. Williams	69. Mr. Y.K. Prasad	

ABSENT FROM PHOTOGRAPH

1. Mr. D.L. Anderson	8. Miss. M.L. Evans	15. Ms. L. Queale
2. Ms. H.M. Brookes	9. Mr. G. Everingham	16. Dr. J.L. Readshaw
3. Mr. M. Cahill	10. Dr. S. Goodwin	17. Mr. G. Reidy
4. Mr. P.D. Christian	11. Mr. J.G. Hamilton	18. Mr. G.D. Rippon
5. Mr. L.D. Crawford	12. Dr. V.E. Harris	19. Mr. D.P. Sinclair
6. Mr. G.J. Daglish	13. Mr. D.C. Hopkins	20. Dr. A.W. Sweeney
7. Miss. M.L. Evans	14. Mr. S. Lawson	



schayeri), apparently brought about by heavy rains in the area. While the density of the adults was about one per square metre out in the bush, the lights on the gas wells at night attracted huge numbers of beetles, so much so that the workers had to contend with masses of beetles several inches deep! Worried by the defensive secretions of the beetles, the workers decided to go out on strike. However, after re-assurances from Peter, the workers crunched their way back on to the job.

Numbers of people registering for the Fourth Australian Applied Entomological Research Conference (Adelaide 24-28th September) are running ahead of expectations, and the organisers are confident of a successful conference. A late addition to the programme is an Insect Pathology section, in which Laurie Miller will present a review paper and chair the proffered papers session. Further information on the conference can be obtained from:

Dr P.E. Madge
Department of Agriculture
Box 1671, G.P.O.
ADELAIDE SA 5001

Waite Institute, Entomology Department

Tony Smith has commenced a Postdoctoral Fellowship in the Department, being funded from a Charles John Everard Fellowship. Tony comes to the Department from the University of Adelaide Zoology Department, and will work with Derek Maelzer on mathematical modelling of red scale and *Cardiaspina* populations.

On 4th May, Dr M.L. Lands, F.R.S., visited the Department. Dr Lands is a Reader at Sussex University, and he is currently spending two years at A.N.U. in the Neurobiology Department. He gave a very interesting seminar entitled "The Eyes of Butterflies and Moths".

The review of the Department of Entomology was conducted from 22nd to 29th May, with many interesting discussions and meetings between the members of the Reviewing Committee and the Department. The Committee's report is now being prepared.

Mr P. Ramesh has submitted his Ph.D. thesis entitled "The ecology and behaviour of *Nysius vinitor* Berg. (Hemiptera-Lygaeidae) - key pest of sunflower (*Helianthus annuus* L.)", and has returned home to Hyderabad, India.

Another Ph.D. thesis to be submitted was that of Mr Jun Samoedi: "Factors affecting the effectiveness of *Trioxys complanatus*, a parasite of the spotted alfalfa aphid". Jun has now returned with his family to Indonesia.

Another student to return home is Mr Zhao Jing Wei. However Zhao will be back after holidaying with his family for two months in China.

Two former students of the Department, Heloisa Mariath and Peter Coombe, are back at the Waite Institute as Visiting Scholars, after completing van Humboldt Fellowships in Wurzburg, West Germany. They will shortly be giving seminars, Peter speaking on "Genetic dissection of visual behaviour in *Drosophila melanogaster*" while Heloisa will speak on "Genetic dissection of learning and memory in *Drosophila melanogaster*".

Dr Dick Hart from the Australian Wool Corporation visited the Department in July and spent some time with Dudley Pinnock and David Cooper.

Another visitor is Jacalyn Fleming who is spending 5 weeks in the Department while participating in a SPAN programme. Jacki is from Gustavus Adolphus College, St. Paul, Minnesota, and is working on a project in the Insect Pathology Lab. dealing with the nutritional requirements of bacteria toxic to blowfly larvae.

The termination of several research grants has resulted in the departure of some members of staff from the Department. Jon Hardy, Mandy Hall, Jenny Birve, Lynette Tilley and Tery Stone have left, while Peter Mew will resign his position with the Department in July to take up a new appointment as Technical Officer in Plant Pathology.

Dudley Pinnock and David Cooper leave for the U.S.A. in early August and will attend the Society of Invertebrate Pathology Meeting at Davis, California. Dudley will visit labs in Beltsville and Cornell and will then continue on to attend the 17th International Congress of Entomology in Hamburg. At both Davis and Hamburg, Dudley will take the initial steps in the organisation of the Vth International Colloquium on Invertebrate Pathology to be held in Australia in 1990. David will spend a month with Joe Maddox in Urbana, Illinois, surveying blowfly populations for the microsporidan *Octospora muscaedomesticae*. He will also visit labs in Louisiana, North

Carolina, Beltsville and Cornell.

The Department's constant temperature rooms, which have been in service for over 20 years, are being replaced with modular individually air-conditioned units.

Most students and staff attended the Annual General Meeting and Conference at Mildura in May, with several papers being presented.

We are always interested in the activities of those of us who are amateur entomologists. Here is one such report from Bede Lowery, of Sevenhill:

Bede Lowery, Jesuit and parish priest of Clare-Sevenhill, still finds time to study *Myrmecia*, the bulldog and jumper ants. Present interest is the *M. nigriceps* complex. One remarkable species, *Clark's fuscipes*, builds multiple bird-nest craters in the most unlikely of habitats, the deep shellgrit deposits along the shoreline of St. Vincent and Spencer Gulfs.

North of Pt. Augusta, between Hesso and Kingoonya, populations of 3 sibling species have been located. The distribution pattern in this arid mulga country is a puzzle. There may well turn out to be a pattern analogous to that of Dr Key's *Morabines*.

Bede also reports "the death in London of Laurie Weatherill on the 16th of April this year. Laurie, ex bank officer and ex Commonwealth Games marathon runner, had over the years travelled widely and made large collections of ants from India, south and central Africa, Malta, Israel, the British Isles, etc. His collections from all Australian States as well as from New Guinea and New Britain were of special interest to us ... Several years ago he had said he would give me his Australian-New Guinea material. But to my surprise in March, 1982 he sent me his entire collection. However, storage and curation was beyond me, and I have handed on the collection to the ANIC".

David Cooper
Regional Councillor

VICTORIA

Plant Research Institute, Burnley

Sixteen staff from Burnley attended the Society's Mildura AGM and Conference in May, and consequently for a few days entomologists' were rather hard to find around the Institute.

Professor Stuart Gage has now returned to the U.S.A. In the busy few months before he left he visited Rydalmere, D.P.I. Queensland, Dept. Agriculture, Hobart and the C.S.I.R.O. Division of Irrigation Research, Griffith to discuss Computer Management Systems with personnel on these locations, and also, to talk about the recently begun Victorian Crop Information Service (CIS).

CIS involves a number of entomologists and plant pathologists at Burnley and aims to collect and summarise information from agricultural districts throughout Victoria to obtain an overall view of the state of crop health. The information has always been collected in the form of farm visits, but has not previously been standardised or collated. The information will be redistributed in summary form to district offices of the Department of Agriculture. Benefits of the service should include an increased awareness of the distribution of pests and diseases and the damage caused to crops in Victoria, estimates of crop losses, and assessments of effectiveness of control programmes and management practices. The service will also have a predictive capability which will enable forecasting of possible pest and disease outbreaks.

Dr Rudi Rabbinge from the Agricultural University, Wageningen has succeeded Stuart Gage as visiting scientist for the next 18 months or so. He will continue the work on computer pest and disease management strategies at Burnley, and also will work with John Brown at the Victorian Crops Research Institute, Horsham, and Gordon Murray of the New South Wales Department of Agriculture at Wagga.

Irja Sofield has recently joined the staff at Burnley. Irja, a post doctorate fellow from Reading University, U.K., will join Steve Gagen, Mark Perry and Rudi Rabbinge in a new "Systems Group" involving themselves with CIS, statistical and experimental designs for the Institute and computer modelling work.

Garry McDonald left for China in July as the leader of the Australian Mission on Noctuid Pests. The group will visit various Chinese Research Establishments over a 3 week period.

Rob East visited Andy Sproule and the fruit-fly group of the West Australian Department of Agriculture in July to discuss mass production techniques for sterile male release programmes.

Dave Williams recently became the secretary to an Industry and Departmental steering committee formed to run the Victorian apple pest management programme.

Another new member of staff at Burnley is Mike Wegecsanyi who has joined the stored product group to replace Helen Rosenbaum who is now completing a Ph.D. at Melbourne University. Mike visited the CSIRO Stored Grain Research Group in Canberra in June.

Both Mike and Peter Williams attended the CSIRO/Australian Grain Institute Seminar and Workshop on Aeration System Design at Highett in May. Graham White, DPI Queensland, also attended this and visited Burnley prior to returning home.

Peter Williams also attended the Australian Wheat Board working party on Grain Protectants in May, in Melbourne. There he met up with Barry Wallbank (New South Wales Department of Agriculture) and Merv Bengston (DPI Queensland) who both visited Burnley prior to their return home.

Dick Davies visited Terry Amos, John MacFarlane and Malcolm Campbell in July for general discussions on the strategic use of pyrethroids in Australian agriculture.

Mohammad Mekhamer has recently moved office to the World Trade Centre, but still maintains close contact with Burnley, particularly with Lindsay Crawford, with his quarantine interceptions.

La Trobe University, Zoology Department

Tim New returned to Papua New Guinea for several weeks in late June, chasing lacewings. From there he goes to Europe for a few weeks in the British Museum, and to participate in conferences on Psocoptera (London) and Neuroptera (Hamburg) before flying to Indonesia to join Ian Thornton and others on Krakatoa.

Gordon Berg
Regional Councillor.

AUSTRALIAN CAPITAL TERRITORY

CSIRO Division of Entomology

With the exception of the Lepidoptera section, field activities in the taxonomy section have been much reduced in recent months. However, Ian Naumann, from the ANIC, and Dr Bob Matthews, from the University of Georgia in the USA, spent a week in early June studying subsocial sphecids associated with rock shelters in Kakadu National Park, and Bob Taylor coupled the Council of Australian Museum Directors annual general meeting in Darwin in early July with a field trip to Cairns and Townsville to collect ants and a trip to Atherton to inspect facilities at the Division of Forest Research, including their canopy tower at Yungaburra. The ANIC taxonomists are particularly interested in this tower, which has platforms erected at different heights in and above the canopy of the rainforest trees, since it would allow the collection and surveillance of insects in the rainforest canopy.

Ebbe Nielson and Ted Edwards spent a month from late April in the field in southern Western Australia collecting Lepidoptera. In particular, they were searching for the primitive and rare endemic Australian family Lophocoronidae (genus *Lophocorona*), of which they managed to obtain a long series of males and a single female. Morphological study of these specimens will permit taxonomic assignment of the family in relation to other primitive Lepidoptera. This trip allowed the first comprehensive collection of Lepidoptera to be made in southern Western Australia in late autumn; a total of 12,000 lepidopteran specimens were collected.

On 14th July, Ebbe Nielsen departed for a world tour of museums in London, Paris, Holland, Copenhagen, Frankfurt, New York and Honolulu. He will be working on Australian Hepialidae, especially the genus *Aenetus*, but also will photograph types of Australian Lepidoptera for a checklist of the Lepidoptera of Australia. Ebbe will be attending the International Congress of Entomology in Hamburg and the Fourth Meeting of the Willi Hennig Society in London. While in Copenhagen, he will work with Dr Niels Kristensen on the morphology of primitive Australian moths.

Mark Harvey visited the Museum of

Victoria on 8th June to examine the arachnid collection. At the end of June, Janet James started work at the ANIC as a Technical Assistant. She is sorting leaf litter arthropods that were taken from Berlese funnels, Winkler traps and Howden traps during the recent trip to Norfolk Island and Philip Island.

There have been a large number of visitors working at the ANIC in recent months. The Hemiptera section had visits from six entomologists: Dr Oatman, from the University of California in the USA, visited Mary Carver to discuss trichogrammatid parasitoids of aphids; Tony Ewart, from the Geology Department of the University of Queensland, spent a day examining cicadas; John Donaldson, from the DPI in Brisbane, spent a week working on Delphacidae and Cicadellidae and consulted with Murray Fletcher, from the BCRI at Rydalmere, who visited Canberra for two days of cicadellid research; Keith Taylor, from Tasmania, worked on psyllids for a week; Gerry Cassis, from Sydney, spent a few days sorting out the Miridae in the ANIC. Gerry recently completed a Ph.D. on the generic classification of the Dicyphini at the Oregon State University in the USA. The Coleoptera section had two visitors: Dr Harry Uther-Baker, from Perth, visited the ANIC to identify weevils; Magnus Peterson, from Hall in the ACT, visited intermittently to work on Buprestidae. Daniel Bickel, from Melbourne, spent several days studying flies of the family Dolichopodidae.

The Lepidoptera section had five visitors: Ms D. Campbell and Ken Fairey, from the Forestry Commission of New South Wales at Beecroft, were at the ANIC in mid April, and Ken visited again in June to examine anthelid moths and other insect groups; Peter McQuillan, from the Tasmanian Department of Agriculture, examined geometrid moths for a week; Roger Kitching and Naomi Pierce, from Griffith University, spent a week in late May looking at lycaenid butterfly larvae with the SEM. The wasp section had two visitors: Brother William Borrell, of Bulleen, who talked to Ian Naumann about the biological studies of wasps that he had conducted in New Guinea; Paul Hanson, from the Entomology Department of the Oregon State University in the USA, is doing a Ph.D. on chalcidoids associated with plant galls, especially the genus *Ormyrus*, and he spent three days examining the ANIC Chalcidoidea. Dr Frances Michaelis, from the Australian Maritime College in Launceston in Tasmania, visited the ANIC in mid May and gave a seminar on aquatic entomological

research in Tasmania to the taxonomy group.

And last, but not least, Sybil Monteith visited the ANIC taxonomists in mid April to discuss entomological art work.

Lew Chinnick, an Experimental Officer in the Division for many years, died in retirement on 11th July. Lew worked mainly with locusts, to which he developed a severe allergic reaction. In addition, he was officer in charge of many general insect collecting expeditions to remote regions of Australia.

In March, Roger Farrow and Alister Drake visited Los Banos, in the Philippines, at the behest of the Philippines Council for Agricultural Research and Development. The purpose of the visit was to carry out a pilot study of the migration of the Brown Plant Hopper, using radar and aerial trapping. The trip was a success despite much lower than expected numbers of the Brown Plant Hopper.

In May, Murray Wallace was admitted to the degree of Doctor of Science by the University of Sydney. His thesis was entitled "The ecology and control of some insects and mites associated with pastures and forests".

Associate Professor Michael Owen, of the Zoology Department, University of Western Ontario, Canada, is visiting the Division for six months. He will be studying amine neurotransmitters in relation to circadian rhythmicity and amines in defensive secretions of insects.

Open Day

The Division of Entomology held an open day on 1st July. The main feature was the ANIC, which exhibited a variety of displays, including live insects and arachnids. Field insect collecting gear was set up outside at the front of the building. The day was a great success; the official count was 3,250 visitors - a figure that rivalled the visitor number for that day at the Great Impressionist Exhibition currently held at the Australian National Gallery in Canberra. Without doubt, the most popular exhibits were the live spiders, including funnel web spiders, and the live giant cockroaches (*Macropanesthia rhinoceros*); the cockroaches were kindly loaned to the ANIC by Doug Rugg and Harley Rose of the University of Sydney.

An open day competition was organized for secondary school students. Forty students participated in the two sections - a junior

section (7-10 years) and a senior section (11 and 12 years). The first prize winner in each section was a girl (a sign of female academic prowess?) with a special commendation being awarded to a boy. Each winner was presented with a display case of pinned Lepidoptera and the schools of each of the first prize winning students received a book for the school library. A copy of the CSIRO, The Insects of Australia, went to the school of the senior winner, and a copy of Common and Waterhouse, The Butterflies of Australia, went to the school of the junior winner. Part of the competition was to answer the question "Why study insects?". The answer furnished by the senior winner is reproduced here.

Why Study Insects?

By: Jane Hambling
Ipswich Girls Grammar School
Brisbane

Insects are the most successful animals that have ever lived. There are probably more than a million species of animals living now, of which more than three quarters are insects.

Insects are important to study as they have helped us to reach our present understanding of heredity and evolution and can be of practical use in medical, agricultural, and veterinary science.

With the understanding of the role of insects we can find a solution to some industrial and community problems caused by those species that have become pests. This can be done by biological control. As an example of this a water weed called alligator weed was infesting lakes and rivers but with the introduction of the alligator weed flea beetle there has since been promising prospects for controlling the weed.

Another important factor which should be recognised is what influence insects have on our food intake. Without bees and other insects we would have very few fruits and vegetables. There would be little or no clover; hence less beef, mutton, and wool. Because we need to produce enough food for our ever increasing population, with the control of some pests there would be a greater productivity rate.

Many species are parasitic or predaceous and are important in keeping the pest species under control.

Another value is the aesthetic value. Artists, milliners, and designers have made use of their beauty and many people derive a great deal of pleasure from the study of insects as a hobby.

Among the main disadvantages of insects to man is the transmission of disease especially the mosquito and malaria. Often they are annoying due to just their presence, odours, bites, and stings.

In order to derive greater benefit from insects which contribute to the welfare of mankind, and to minimise the effect of insects which spread disease or are a pest, it is most important that we understand all aspects of insects. Little is known of many species and there is enormous scope once we discover more of their characteristics to manipulate parts of the insect world to solve many of the problems now facing the human race.

Cladistics, Systematics and Phylogeny Symposium

This extremely interesting and informative symposium was organized by the Australian Systematic Botany Society and was held in the Division of Plant Industry in CSIRO on Friday 18th May. Don Colless and Robert Raven, from the Division of Entomology, contributed talks to the symposium and most of the taxonomists from the Division of Entomology were in attendance. The topics covered, even by botanists, were of general relevance to systematic entomologists.

Aust. Nat. Univ. - Zoology Dept.

Penny Gullan and Penny Knox spent several days in late June at the BCRI at Rydalmere working on Froggatt's collection of dry coccoids.

Congratulations to Gerrit van de Klashorst, who has been awarded a Ph.D. for his thesis titled "Acarine predator-prey interactions and their response to changes in components of the 'life systems': Typhlodromus occidentalis Nesbitt."

CSIRO Division of Forest Research

Cliff Ohmart spent a week in late May with Ross Wylie at the DPI in Brisbane. Cliff was familiarising himself with forest insect problems in Queensland and discussing tree dieback with Ross.

Penny Gullan & Barry Longstaff
Regional Councillors



1



2



3

OPEN DAY AT CSIRO CANBERRA. 1. Crowds of visitors view a variety of insect collecting apparatus erected on the front lawn. 2. The displays in the foyer of the ANIC created much interest. 3. Tall tales from Robert Raven commanded the rapt attention of his audience. (Photos by Ed Highley).



CSIRO

Congratulations to Ray Ackhurst on his Ph.D. from the University of Tasmania. His thesis encompassed a study of the bacterial symbionts of pathogenic nematodes of the families Steinernematidae and Heterorhabditidae. A current visitor with Ray on these symbionts is Dr Noel Boemare of INRA, Montpellier, who will be in Tasmania for 5 months. Robin Bedding, recently recovered from surgery, is currently overseas during which time he will chair a session at the Inaugural Congress of Nematology in Guelph and visit laboratories in the U.S.A., Canada and Europe, finally spending two weeks in China on a co-operative programme. George Bornemissza will be attending the International Congress of Entomology in Hamburg in August.

Department of Agriculture

In June, Dr Stuart Gage, Visiting Scientist at the P.R.I. Burnley, visited New Town Research Laboratories for a few days to lecture on Pest Monitoring and discuss specific applications with staff members. Stuart and his wife, who were hosted by Rod Brieze-Stegeman, were able to also spend a weekend sightseeing.

Laurie Miller recently returned from his Churchill Fellowship tour of biological control centres in the U.S.A., West Germany and Italy, where he studied control of grasshoppers, weevils and orchard borers. While in Italy he was able to demonstrate successful control of apple tree borers using entomogenous nematodes. Laurie has left the Department to pursue his nematode research as Head of the Horticulture Section in TAFE in Hobart. We wish him well in his new job and trust that he will maintain his close contacts with the Department of Agriculture.

Other travels in the last quarter were had by Margaret Williams who attended the Mildura Annual General Meeting, John Ireson who spent a week studying Collembola at the South Australian Museum and Peter McQuillan who spent a week at ANIC in Canberra discussing matters taxonomic in several groups.

Peter McQuillan
Regional Councillor



Sydney University

Open Day 1984 was held over the weekend of 14-15 July and attracted many thousands of visitors. Most of the University's Departments mounted displays of their work. Zoology Department, the first year Biology laboratories and Agricultural Entomology all mounted displays featuring insects.

Two Masters projects in Agricultural Entomology have come to successful conclusions. Mary Ann Terras has gained an M.Sc.Agr. for her thesis entitled "Epoxidase activity of larvae of the Sheep Blowfly, *Lucilia cuprina* (Wiedemann), and the effects of Vetrizin, a new primary fly strike insecticide." Ian Tordoff has been awarded an M.Agr. for his work on Microsomal mixed function oxidases in *Spodoptera litura* and other selected insects.

Australian Museum

Courtenay Smithers and Geoff Holloway are preparing to leave for Europe to attend the 17th International Congress of Entomology in Hamburg. While overseas they will also visit the British Museum and Geoff is planning to spend some time in Ottawa.

David McAlpine has been heavily involved with preparations for the new Insect Gallery which appears to be on schedule for opening in November.

Keith and Edie Carnaby, beetle specialists from Western Australia passed through Sydney on their way home from a collecting expedition across the top of Australia. They stayed with Max and Barbara Moulds and caught up with many of the local entomologists there.

Biological and Chemical Research Institute, Rydalmere

The Insect and Mite Collection and the Herbarium (registered as HERB.DAR in Index Herbariorum) now enjoy statutory protection following the passing of The Agricultural Scientific Collections Trust Act 1983. This act vests the collections and all related material (such as files, literature, etc) in a 6 member Trust whose responsibilities are in "maintaining and improving trust property."

This means that the collections, which have considerable holdings of type material both entomological and mycological, are protected in the same way as are the collections of State Museums.

Andrew Beattie has returned from 12 months in China sponsored by the Australia-China Council, the Department of Primary Industry and the Guangdong Entomological Institute. While in China Andrew carried out the first comprehensive study of the ecology of Citrus red scale, *Aonidiella aurantii*, Australia's most serious citrus pest, in its native East Asian environment. Considerable benefit to the Citrus industries of both China and Australia should result.

Graham Goodyer left in June for 3 weeks studying the biology of armyworms in China. Graham is accompanied by entomologists from other Australian institutions on a tour initiated by the Victorian Department of Agriculture.

John Donaldson, Queensland Department of Primary Industries, spent a week at Rydalmere in mid-May studying leafhoppers and planthoppers with Murray Fletcher. Penny Gullan and Penny Knox, Australian National University, visited the Collection in late June to work on Froggatt's coccids.

Garry Levot started a three year term of employment in the Sheep Blowfly Unit on 12th June. Garry will be working mainly on chemical aspects of fly control, particularly blowflies. He recently completed a Ph.D. at the University of New South Wales on 'Insecticidal disruption to growth and development of the Australian Sheep Blowfly'.

University of New South Wales

Erik Shipp is developing a microprocessor-controlled aerosol testing chamber to establish a facility for independent appraisal of new household aerosol formulations.

Tim Entwistle is undertaking an Honours project on "Carbamate resistance in blowflies" in co-operation with The Department of Agriculture at Rydalmere.

Macquarie University

Dinah Hales will be studying aphid chromosomes at the British Museum until the end of the year and will be at the Congress in Hamburg. Entomological research will be

almost in a state of suspended animation at Macquarie University until Dinah returns. Even Dave Raftos, who won the A.E.S. student award in 1984, is now working on *conjevoi*!

Paul Hughes' Ph.D. thesis on Biochemical and Genetic Studies on Resistance to OP Insecticides in *Lucilia cuprina* has been accepted.

Murray Fletcher
Regional Councillor.

NEW SOUTH WALES COUNTRY NEWS

Several New South Wales Country entomologists attended the Australian Entomological Society Meeting in Mildura last May. They included Steve Goodwin of Gosford, Col Bower from Orange, Ed. Jones and Christine Stone from Yanco, Neil Forrester and Garry Fitt from Narrabri and Peter Gregg and Robin Gunning from Armidale and Tamworth respectively.

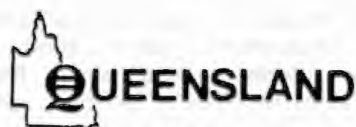
Col Bower from the Agricultural and Veterinary Research Centre at Orange attended an integrated mite control workshop organised by Les Readshaw of CSIRO held after the Annual General Meeting at Mildura. A shipment of pesticide resistant *Typhlodromus pyri* (predatory mites, F. Phytoseiridae) were exported in early May to Dr Don Elliot of British Columbia, Canada for bio-control of European red mite. This much travelled strain originated in New Zealand orchards from stock that probably came from Europe and was introduced to Australia in 1977 by CSIRO.

Tim Kingston, Technical Officer in entomology at Wollongbar Agricultural Research Centre has recently resigned and returned to the United Kingdom.

Peter Bennet, an entomologist from Union Carbide, South Africa recently visited Robin Gunning at the Tamworth Agricultural Research Centre to discuss common insect pest problems.

Garry Fitt and Neil Forrester of Narrabri and Robin Gunning from Tamworth will shortly leave to attend the International Congress of Entomology in Hamburg.

Robin Gunning
Regional Councillor.



CSIRO Long Pocket Laboratories

Ken Harley, Peter Room, Don Sands and Richard Kassulke will all attend the VI International Symposium on Biocontrol of Weeds in Vancouver in late August. Afterwards Don visits Peter Maddison at DSIR in Auckland for a week.

Don Sands departs on September 14th for a week at the British Museum finalizing his Hypochrysops monograph. Afterwards he travels on ACIAR funds to Nairobi for a week's discussion with CIBC personnel on Salvinia problems. Then he joins up with ex-Queenslander David Hancock, who is at the National Museum in Bulawayo, Zimbabwe. Together they travel for 3 weeks through Zimbabwe, Botswana and Zambia looking at Salvinia infestations in the Chobe and Zambezi River systems.

Alan Fletcher Research Station

Rachel McFadyen and Brian Willson will be presenting papers at the 6th International Symposium on the Biological Control of Weeds in Vancouver in August. Rachel is currently on holidays visiting relations in Trinidad and Toronto enroute to Vancouver.

Clyde Wild will be attending the 4th Applied Entomological Research Conference in Adelaide in September.

Alan Tomley will be presenting a paper at the 7th Australian Weeds Conference in Perth in September.

Department of Primary Industries

The Fresh Fruit Disinfestation Sub Committee of the Plant Health Committee met in Brisbane in July. Chaired by Mike Jeffries the meeting was attended by entomologists John Gellatley, Andy Sproule, Neil Heather and Tom Passlow. Aspects of the Fresh Fruit Disinfestation research programme were discussed.

Neil Heather spoke to an ionising energy workshop held in Brisbane on 18th July on the role of ionising energy in fresh fruit disinfestation in the wake of recent EDB bans in the United States. The workshop will

concentrate on the generation of ionising energy from electrical sources which may overcome possible adverse reactions to radioactive sourced ionising energy.

In late July Tom Passlow will present an invited paper to the Sorghum Insect Pests Workshop at the A and M University, Texas, U.S.A. organised jointly by ACRISAT and A and M. Whilst in the U.S., Tom will also investigate the latest developments in the post-harvest treatment of fruit commodities during visits to the Institute of Food and Agricultural Sciences in Florida and irradiation facilities in Washington and New Jersey. Tom will return home via Honolulu where he will attend a fruit fly workshop. It is proposed that Neil Heather and Dick Drew will also attend this workshop.

Forestry Department

The first releases of parasites and predators of the exotic bark beetle, Ips grandicollis, were made in Pinus plantations north of Brisbane in April and May. These biological control agents, a torymid wasp and a clerid beetle, are being reared locally in Forestry's Indooroopilly research facility.

In May Ross Wylie attended the "Focus on Farm Trees II Conference" in Armidale where he presented papers on die-back investigations and agro-forestry in Queensland.

Cliff Ohmart of CSIRO Division of Forest Research, Canberra visited the Indooroopilly laboratories in May and early June. Cliff is an expert on American bark beetles. Tom White of the Riverina C.A.E. also visited Indooroopilly and had discussions with Ross Wylie regarding the outbreak of forest insect pests.

During 1983/84 six houses and one large building in Brisbane and one house in Maryborough were fumigated for the West Indian drywood termite. The campaigns, survey, fumigation and resurvey work appear successful in finding and containing the boundary of infestation. There has been a continuing decline in the number of Cryptotermes brevis infestations discovered since the peak of the campaign in 1979. Ross reports that while total eradication will probably never be achieved the major threat posed by C. brevis in Queensland appears to have been substantially diminished.

Queensland Institute of Medical Research

Bob Domrow and Marlene Harris spent three weeks in June at Bamaga on Cape York collecting parasitic mites and ticks from vertebrates. This area has interesting Papuan invasions and new Australian records continue to accumulate.

Ian Fanning has been appointed project co-ordinator for Queensland for Operation Raleigh, a round-the-world expedition organised by a number of British Exploring Societies. The expedition began in the U.S.A. on 13th July and will visit Australia in 1986. In Central America the expedition is planning studies on the diversity of tropical insects in relation to tree diversity, the activity of flying insects in relation to the lunar cycle and studies of the vertical distribution of flying insects in tropical rain forests. Vertical stratification, species diversity and abundance of Coleoptera and Lepidoptera will be studied at six outposts on the side of Barba volcano, Costa Rica. Dr. William J. Knight of the British Museum (Natural History) is the entomological representative on the Expedition research committee. Ian would be happy to hear from any member with study proposals for the expedition whilst it is in Queensland.

Brian Kay continues with his hectic professional life following appointment as Director of the Queensland Health Department's Vector Control Unit. This new role is in addition to his responsibilities to the Arthropod borne disease epidemiology unit at QIMR.

University of Queensland, Department of Entomology

Professor Fowden G. Maxwell and his wife, Dr. Katherine Maxwell, arrived in the Department at the beginning of July. Prof. Maxwell is an Alumni Visiting Professor from Texas A & M University, U.S.A., where he is Head of the Department of Entomology. He will be in the Department for about three months assisting with lecturing and discussing research projects. His special interests are pest management and host plant resistance.

Viv Harris recently visited Fiji at the request of the University of Queensland Department of Agriculture/ACIAR Pigeonpea Project organisers to investigate whether a problem of excessive flower shedding was being caused by insects. She found that in fact there were very few insects in the pigeonpea fields and that the problem was a

plant pathology one. Viv also had discussions with the Fijian Ministry of Primary Industries and the Nature Land Development Corporation with regard to possible avenues of entomological research on pigeonpea in Fiji as well as entomological training in Queensland of Fijians working with pigeonpea.

Queensland Agricultural College, Plant Protection Department

John Turner, DPI, Entomologist responsible for Quarantine visited the Department for discussions on matters of quarantine.

Mr B. Brett, Mr J. Nile, and Mr W. Fisher of the Agricultural and Veterinary Chemicals Association visited the department to discuss with staff the changes to the Trade Practices Act. Mr Brett addressed the staff and senior students on the activities of AVCA and the current issues facing agricultural and veterinary chemicals.

Mr. Herman Mani, General Manager and Mr Jeff Sharp, Marketing Manager, CIBA-GEIGY Australia joined the Department for a period of one month's experience and training in Plant Protection.

Mr Robert John from Schering Ag, Berlin, W. Germany has just completed a one month specialist training course in Plant Protection. He is the area sales manager for Canada, United States, Central America and Columbia and has been mainly dealing with the practical aspects of plant protection, pest identification and application technology.

Brian Goddard, a B.Sc. student in Applied Zoology from Reading University, U.K. has just joined the Department for two months vacation employment and practical experience. This has been undertaken under the British Australian Vocational Exchange Scheme. His main interests are Applied Entomology and Population Ecology.

Professor John Spillman from Cranfield Institute of Technology in United Kingdom will be spending 2½ months with the Department investigating and developing new methods in application technology. He will also be testing a new ram-air spreader, wingtop sails and windmill droplet generators, all of which he has developed in U.K. for use with agricultural aircraft. He will also be visiting North Queensland, Melbourne, and Sydney during this period to examine aspects of agricultural aviation.

Queensland Museum

Frank Howarth and Fred Stone, speleo-entomologists from the Bishop Museum, Honolulu, visited the Museum on July 6 to discuss the processing of specimens from a study of the cave fauna of the Chillagoe Caves in North Queensland, which they are undertaking in conjunction with the U.S. Explorers Club. Many interesting cave-adapted arthropods have been found in the caves.

Val Davies has taken over as Chairman of the informal group of entomologists who meet monthly at DPI Entomology Branch as the Taxonomy Discussion Group.

Paul Hanson and Gerry Cassis, both recently from Oregon State University, called in at the Museum in late July. Paul is studying the chalcidoid genus *Ormyrus* for his Ph.D., while Gerry has recently finished his Ph.D. on the mirid tribe Dicyphini and has returned to his home town of Sydney.

Ian Galloway
Regional Councillor

NORTH QUEENSLAND NEWS

Earl Oatman from the University of California at Riverside spent several weeks in the north, collecting eggs of Lepidoptera for parasite studies.

Neil Gough returned to his old stamping grounds in Mareeba and Atherton for a few days with regard to some work he was completing on soil insects in the Tolga peanut growing area. He also spent a week in the Torres Strait making quarantine collections.

Ian Cunningham spent several days in Brisbane to attend a commonwealth/state planning meeting with regard to future work by entomologists in tropical areas. Bruno Pinese also visited Brisbane to attend a banana research planning meeting.

Geoff Waite from Nambour visited Atherton to give a talk on insect problems at a National Avocado Field day and seminar held there recently. The meeting was well attended by avocado growers from around Australia.

Mark Heap, an entomologist with the West Australian Agriculture Department based in Kununurra, visited Mareeba and other Queensland centres in June to have talks with various Entomologists on insect problems in dry tropical areas.

Allan Walford-Huggins
Regional Councillor.

ASSOCIATION OF PACIFIC SYSTEMATISTS

ASSOCIATION OF PACIFIC SYSTEMATISTS

Above is the attractive logo of this newly formed Association which has been set up to promote communication between systematists in the Pacific region. The interim President is NZ entomologist, John Dugdale, and the interim Secretary/Treasurer is botanist, S.H. Sohmer, at the Bishop Museum. The first issue of their informative newsletter appeared in March, 1984. The subscription rate is \$US5 per annum and this should be forwarded to:

Dr S.H. Sohmer
Department of Botany
Bishop Museum
P.O. Box 19000-A
HONOLULU, HAWAII 96819

NEWS FROM AFFILIATED SOCIETIES



ENTOMOLOGICAL SOCIETY OF NEW SOUTH WALES

Three most successful meetings have been held in recent months:

May 2nd: John Peters - Insects on Stamps or Philatelic Entomology.

June 6th: Current Research Topics. Graeme Baker, David Sinclair, Elaine Shuter, Roger Allanson.

August 1st: John Hamilton - Current role of insecticides in vegetable growing. Vic Edge - Resistance: the major threat to insecticides. Jim Watt - the future of insecticides.

The Society's Christmas function this year will be a barbecue to be held on Saturday 1st December, 1984, at Sydney University Field Station, Pearl Beach, "Warra" - all welcome - please book with Doug Rugg, phone 692 3331.

Volume 16 of our Society Journal, General and Applied Entomology, is nearing completion and is expected by September. 12 papers will be included concerning a wide variety of subjects.

Max Moulds
Representative Councillor



ENTOMOLOGICAL SOCIETY OF QUEENSLAND

At our meeting on August 13 we were privileged to have Professor Fowden Maxwell from Texas A. & M. University, U.S.A., speak on the topic "Entomology in the Texas A. & M. University - Projects, People and Policies".

The proposed programme of meetings for the remainder of the year is as follows:-

10th September - Professor Ito, Japan.

8th October - Professor R.F. Chapman, London.

12th November - Dr Paul Bailey, Griffith University.

10th December - Notes and Exhibits Meeting following the Annual Society Barbeque.

Please note that meetings now commence at 7.30 pm rather than 8.00 pm. Country Members and visitors are always most welcome. Why not try to organise your next visit to Brisbane to coincide with the Second Monday of the month?

Margaret A. Schneider
Representative Councillor.



ROY. ZOOL. SOC. OF N.S.W. ENTOMOLOGY SECTION

The February meeting was addressed by Clarry Chadwick who spoke on "Exotic Weevils Established in Australia". More than 20 species are now known, a few being serious pests.

Rudy Mulder enlightened the April meeting with his experiences as a collector near Innisfail, dealing mainly with beetles.

The June meeting heard an entertaining lecture by Bert Brunet on his entomological experiences in the Araluen Valley, on the south coast.

One of our members, Bert Brunet, has recently published a book entitled "One Step Closer, Please" which makes an ecological approach to entomology. He is responsible for the photography, drawings and text. While primarily intended for young adults, even the hardened professional can admire the excellent colour photographs.

Jim Turner has produced a survey of the Buprestidae of the Hill End district, illustrated by colour drawings of the beetles and their associated plants. Geoff Williams has published more of his work on certain Scarabaeidae of the coastal areas of New South Wales.

C.E. Chadwick
Representative Councillor.



ENTOMOLOGICAL SOC. OF VICTORIA

At the Annual General Meeting of the Victorian Entomological Society on June 15th all office bearers were returned as per the previous year. President, Peter Carwardine; Vice President, Dorothy Johnson and R. (Bob) Condron; Honorary Secretary, Tim New;

Honorary Treasurer, Gordon Burns; Excursion Secretary, Peter Cardwardine. At the moment we are looking for an Editor to replace Ken Walker who has retired from the position.

At the same meeting the first LeSouef Memorial Award was presented to Keith Hateley.

The next meeting is to be held on 17th August.

Peter Cardwardine
Representative Councillor.

LE SOUEF MEMORIAL AWARD

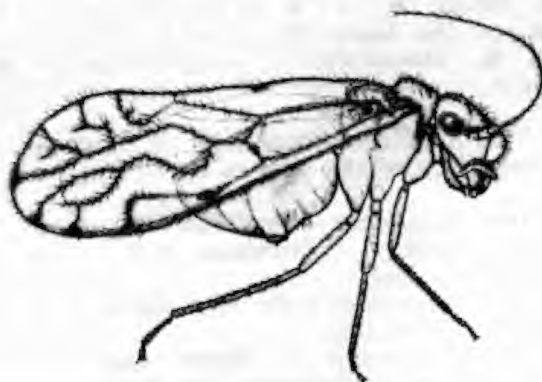
The Entomological Society of Victoria is seeking nominations for this Award, instituted in 1983 in memory of the late J.C. ('Zoo') Le Souef who contributed so much to amateur entomology in Victoria. The Award will consist of entomological equipment or books of the recipient's choice, to the approximate value of \$100 (reflecting the amount of interest accumulated annually on the principal of the Memorial Fund).

1. The purpose of the Award is to recognise the very substantial role played by amateurs in development of knowledge of our insect fauna, this is to be interpreted in the broadest sense.
2. The Award is to be made for contributions to entomology by amateurs in Australia. Such contributions may comprise published papers and notes, broadcasts, newspaper articles, talks to Societies and/or amateur groups, or may be less tangible, such as a substantial record of help to others or public relations involving entomology.
3. No more than one award shall be made in each calendar year. Nominations may be made at any time, but it is expected that the Committee will meet on the 3rd Friday of November each year to review applications and recommend an award, if any, to the Council of the Society. Nominations received after 1st November each year may have to be deferred until the following year.
4. A nomination may be made by any individual or group of people and should be submitted to the Secretary of the Society, who will acknowledge its receipt and circulate it to members of the Committee.

5. A nomination will remain current for three successive calendar years or annual meetings of the Committee, unless an award is made to that nominee, and additional information may be provided to supplement the nomination at any time during this period. Such shall not be considered to constitute a new application. After three years, a candidate may be nominated afresh. No person may receive the award more than once in a ten year period.
6. A nomination shall give the Committee sufficient information to assess the nominee's worthiness for receipt of the Award. It should include:
 - a. The name and full postal address of both nominee and nominator.
 - b. A clear statement of the grounds on which the nomination is being made. This should include; (i) the period over which the contribution has been made; (ii) the details of the contribution, lists of publications (etc.); (iii) comments on allied activities such as involvement in naturalist or conservationist groups and help to other entomologists, collections made (etc.) and (iv) a declaration that these activities have been taken in an amateur capacity. Copies of publications (on loan) could be useful.
 - c. A brief resume/curriculum vitae of the candidate.

Submit to:

Dr T.R. New
Hon. Sec. ESV
Department of Zoology
La Trobe University
BUNDOORA VIC 3083



OVERSEAS NEWS

PAPUA NEW GUINEA

Recent visitors to DPI (Konedobu) have been Dr Chen W. Young from the Carnegie Museum of Natural History in Pittsburgh (U.S.A.) who called in during his trip to collect crane flies from Central Province and at Wau Ecology Institute. Tim New has also returned for some more collecting of Neuroptera and Psocoptera before going onto Europe and the International Congress. At present, DPI is hosting a trainee from the Solomon Islands, Nester Suibwarono, who is learning aspects of the curation of insect collections.

Elaine Brough recently went to the Highlands where she met up with Brian Thistleton from Kuk Agriculture Research Station, to survey the damaging insects on citrus at Aiyura, Goroka, Mt Hagen and Baiyer River. Presently visiting the University is Peter Miles from the Waite Institute, who arrived in late May to study the damage caused by sucking bugs, in particular, *Helopeltis clavifer* (Miridae), which attacks cocoa and sweet potato, and *Amblypelta* spp. (Coreidae) which feed on a variety of crops including cassava and paw paw. He will spend the last 10 days of his 2 month stay visiting the DPI stations at Bubia (near Lae) and Kuk (near Mt Hagen) where these bugs are common.

Phil Spradbery tells us that the building of the new adult screw worm fly insectary is now under way. David Holt, from Canberra, has joined the team at Laloki and recently Murray Upton visited to oversee the installation of the new Gammacell 220 - the new Cobalt 60 irradiator for the unit.

Elaine Brough
P.N.G. Correspondent.

NEW ZEALAND

Mr John Longworth, Director, Entomology Division DSIR, Auckland was elected President of the Entomological Society of New Zealand at the Annual conference held recently in Dundee. Mr Longworth's principal interests are Virus systematics and virus pathogen

control of insect pests, ecology, agricultural and forest entomology.

Susan Millar continues as National secretary for the 14th year. She is only the 2nd Secretary in the 34 year history of the Society. Her address is 4 Maymorn Road, Te Marua, Upper Hutt, New Zealand. Susan has the address of branch secretaries.

Miss Lin Roberts of the Entomology Division, DSIR Auckland has been awarded a US \$10,000 fellowship from the American Association of University Women.

The former pasture group of the Entomology Division, DSIR has now been reorganised and renamed the Agriculture Group.

We received our first shipment of Queensland tomatoes the other day. I hope they did not include *Dacus tryoni* - that is something we could do without.

John Tenquist
New Zealand Correspondent.

RESEARCH REQUEST

The New South Wales National Parks and Wildlife Service is seeking information concerning the invertebrate fauna of New South Wales rainforests. In particular the Service is interested in compiling information on the nature and composition of the fauna, what is known about the habitat requirements of particular animals, and what deficiencies there are in the existing conservation measures.

This task is envisaged as the first stage in a programme aimed at identifying and rectifying any deficiencies in rainforest conservation in the State with regard to the invertebrate fauna.

Any person wishing to contribute information or advice to the service on this matter is invited to contact:

Christopher Nadolny
Department of Biology
University of New England
ARMIDALE NSW 2351.

OBITUARY



STANLEY HINTON CHRISTIAN

A foundation member of the Australian Entomological Society, Stan Christian (or Bai as he was affectionately known to many New Guineans) was born on July 16, 1896 at Buckhurst Hill, Essex, England and died in Canberra on April 13, 1984. Sixty of his 88 years were spent in New Guinea where, through his work in public health and his sympathetic understanding of the people, he contributed significantly to their transition from warring tribesmen of the former German colony to responsible citizens of an independent nation.

Colin Simpson in 1954 described him thus: "A bachelor, close to the retiring age of sixty, a man with a sun-browned face and close-cropped hair who looks and is very fit, he is one of these efficiently urbane people whose households run with a precise yet comfortable smoothness".

The Christian family migrated to Queensland in 1910, where Stan worked as a photographer. Following World War 1 service in the Australian Army Medical Corps and the 14th AGH in Egypt, in July 1922 he joined the Administration of the Mandated Territory of New Guinea as a Medical Assistant. After training at Rabaul and work in hospitals and medical patrols at Kavieng and Madang, he was selected in 1924 to provide medical services for an expedition to the Sepik R. to investigate

reported tribal fighting and to make contact with the people. They founded a station at Ambunti which became the headquarters Station of the Sepik District. Stan established a hospital and aid post there and by his treatment of yaws, tropical ulcers and other diseases gained the confidence of the people. He undertook extensive patrols and trained village tultuls in elements of first aid. When G.W.L. Townsend, the Acting District Officer, arranged the first big government sing-sing, Stan, returning from a patrol, travelled up river in the company of over 500 people in 60 dug-out canoes. Townsend said "Christian, a self controlled individual, was the right man to have on a place like this" and also recounted how, when he brought to Ambunti 11 men badly wounded in an inter-village fight, Stan spent 8 hours operating on 5 of them; all 11 recovered.

Stan was made Senior Medical Assistant in 1926. He had postings at Kieta, Bougainville, and Kavieng, New Ireland, where he worked with Dr E.A. Holland who introduced *Gambusia* for control of *Anopheles*. Holland collected mosquitoes for F.H. Taylor in Australia and perhaps he initiated Stan's interest in them. At any rate, entomology became a hobby.

From 1930 until World War II, Stan was continuously in the Sepik, building and running hospitals at Aitape, Wewak and Angoram, making extensive patrols, and initiating field research into disease incidence. He developed a particular interest in parasitology. The trust and confidence which the people had in him often made him an intermediary in solving problems outside the medical field. It was his responsibility to judge the fitness of prisoners for punishment. Townsend once said to him "What is the sense of my giving him (the prisoner) hard labour if you are going to cancel it?" To which Stan replied "Exactly". He often managed to alleviate corporal punishment, which he considered degrading to all involved.

When the Japanese entered World War II, Stan became a Lieutenant in ANGAU and spent some time on the Kokada Trail looking after the welfare of the Indigenous carriers. He ran an ANGAU hospital near Port Moresby, lectured to troops, and accompanied air force sea planes carrying supplies to scattered fighters along the Sepik, where he could advise on safe water landing spots. He led a carrier line of several hundred with medical equipment for Madang via Wau; when Madang fell the line was diverted to Goroka, from whence he evacuated refugees to Port

Moresby. They included a Sepik boy, Perry Gawi, who attached himself to Stan and remained his life long friend and helper. Stan later supported Perry's 10 children and 2 adoptees through primary and high schools which led them to responsible places in the community.

Transferred to Lae to run an ANGAU hospital, when a doctor became available he concentrated on parasitology and bacteriology, especially amoebic dysentery. In this he had an assistant, Kamagen Samgai, who was to work with him for many years. When the Australian Army proposed bringing highlanders to the coast, Colonel I.M. Mackerras sent Stan with an army entomologist to survey malaria at Mt Hagen and Kainantu, with the result that the proposal was dropped.

In 1946 Stan was invited by the Administrator and the Director of Health to initiate a programme of malaria investigation in the Highlands where little was known about the incidence of the disease and its vectors. He commenced a programme of extensive surveys and built and operated a hospital at Wabag. The situation proved complex and attention was directed to control measures. Stan initiated subsoil and surface drainage experiments. The Territorial Malaria Control School was established at Banz in 1954 with Stan as Principal; later it was moved to Minji. Many hundreds of government staff and some international groups received training while he was Principal. He was appointed Entomologist in 1954 and continued his research on mosquitoes. In 1959 he retired from the Highland Malaria Service and as Principal of the School which was transferred to Kundiawa, reopening in 1963. However he was reappointed Entomologist and his laboratory at Minji became the Special Entomological Laboratory, the reference point for mosquito entomology for the whole country. He continued his research on anophelines, and gave lectures at the School, until he officially resigned at the end of June 1973. Stan was awarded the MBE in 1958 for his long service and in 1962 a wing of the new Wewak hospital was named after him.

Stan told Simpson in 1954 "We do not do enough for the native women. We'll never get very far until we make the women literate", and introduced Simpson to his assistant Danga Goi. During his early work at Banz she had shown interest in and local knowledge of mosquitoes and their larvae and was appointed as a collector. When the School was

established at Minji she became a laboratory technician and an expert in anopheline dissections for malaria infections and for age determination. Danga was awarded the MBE in 1970 for her contribution to the Malaria Control Programme.

Through Danga, Stan became aware of an infant girl who was being discarded by a family in a local tribe. He took care of her and gave her primary and high school education. In 1973 he adopted her "native fashion", that is he "bought her bones". He supported her during tertiary education and Brunei Danga Christian graduated in Medicine from the University of Papua New Guinea in 1983. This was a great joy to Stan, the crowning of his endeavours for the people he loved.

Stan's main work in the Highlands was on malaria and anopheline mosquitoes and he contributed enormously to an understanding of the mosquitoes' behaviour and habitats and of how the social customs of the people influenced infection rates.

He was also intrigued with the culicines and, ably assisted by Danga and Samgai, collected all the species that could be found and reared a great many of them. The problems of their identification started my own long pen-friendship with him in 1948; the specimens he sent are in the University of Queensland collection. Stan was a good taxonomist, without being interested in describing his material, and provided fine series and extensive biological notes to his colleagues. His most important entomological publication is Peters and Christian (1963), in which most of the information on Highland mosquitoes came from Stan. When the University of Papua New Guinea was established, he presented to it a very substantial and well prepared mosquito collection.

Stan's humour and sense of purpose are epitomised in his story of how, many years ago, the Anglican Bishop of New Guinea suggested that he might join the Church and mentioned the possibility of having a parish of 5000 souls to look after. Stan's reply was "Why should I do that? I now have a district of 70,000 bodies to care for".

I am indebted to Stan's brothers, C.S. (Chris) Christian of Canberra and Gilbert Christian of Woody Point for providing much of the above information.

Publications

PETERS, W. and CHRISTIAN, S.H., 1960. Studies on the epidemiology of malaria in New Guinea. Part V. Unstable highland malaria - the entomological picture. Trans. R. Soc. Trop. Med. Hyg., 54: 537-542.

PETERS, W. and CHRISTIAN, S.H., 1963. The bionomics, ecology and distribution of some mosquitoes (Diptera : Culicidae) in the Territory of Papua and New Guinea. Acta Trop., 20: 35-79.

PETERS, W., CHRISTIAN, S.H. and JAMIESON, J.L., 1958. Malaria in the highlands of Papua and New Guinea. Med. J. Aust., 2: 409-416.

References

SIMPSON, C. 1954. Adam in plumes. Angus & Robertson: Sydney.

TOWNSEND, G.W.L., 1968. District Officer. Pacific Publications: Sydney.

Elizabeth N. Marks
Queensland Institute of
Medical Research
Bramston Terrace
Herston Qld 4006

BOOK NOTICE

Medical and Veterinary Entomology, by D.S. Kettle. Groom Helm Ltd., U.K., 660 pp. \$55.00. Available from ANZ Book Co. Pty. Ltd., P.O. Box 459, Brookvale, NSW, 2100.

This book is a comprehensive text on medical and veterinary entomology zoology, tropical medicine and veterinary science. It should also prove to be a major reference for professionals in both pure and applied entomology.

The book is in three parts: the first deals with those features of insects which are of relevance to the subject; the second is concerned with the particular groups of insects and acarine vectors emphasising their biology, ecology and behaviour rather than their taxonomy and morphology; the third treats diseases transmitted by insects and acarines. These topics are covered in a global basis,

without national or geographical bias. In summary, the book is a definitive work on a topic where there has been no recent comparable volume.

CONTENTS

Part 1: General Introduction to Medical and Veterinary Entomology 1. Introduction; 2. Classification of Arthropoda; 3. Classification and Structure of the Diptera; 4. Mouthparts of Insects; 5. Internal Structure and Function of Insects; 6. Species Complexes, and Variation in Aedes aegypti.

Part 2: Insects and Acarines of Medical and Veterinary Importance a. Diptera; 7. Culicidae (Mosquitoes); 8. Ceratopogonidae (Biting Midges); 9. Psychodidae-Phlebotominae (Sandflies); 10. Simuliidae (Blackflies); 11. Tabanidae (Horseflies, Deer Flies, Clegs); 12. Glossinidae (Tsetse flies); 13. Muscidae (Houseflies, Stableflies); 14. Calliphoridae, Sarcophagidae (Blowflies) and Myiasis; 15. Oestridae, Gasterophilidae, Hypodermatidae and Cuterebridae; 16. Hippoboscidae (Keds, Louse flies). b. Other Insecta; 17. Siphonaptera (Fleas); 18. Blood-sucking Hemiptera (Bugs); 19. Phthiraptera (Lice). c. Acari; 20. Acari - Astigmata and Oribatida (Mange mites, Beetle mites); 21. Acari - Prostigmata and Camasida (Chiggers, Blood-sucking mites); 22. Ixodida - Argasidae (Soft ticks); 23. Ixodida - Ixodidae (Hard ticks).

Part 3: Diseases of which the Pathogens are Transmitted by Insects or Acarines 24. Arboviruses; 25. Typhus and Other Rickettsial Diseases; 26. Relapsing Fevers, Borrelioses, Plague and Tularemia; 27. Malaria (Plasmodium) and Other Haemosporina (Sporozoa); 28. Babesiosis and Theileriosis; 29. Trypanosomiasis and Leishmaniasis; 30. Lymphatic Filariasis (Wuchereria bancrofti, Brugia malayi); 31. Human Onchocerciasis (Onchocerca volvulus); 32. Other Helminths Transmitted by Insects.



1984 POST GRADUATE RESEARCH PROJECTS IN ENTOMOLOGY A SUPPLEMENT

In the last issue of the News Bulletin (Vol. 20, Part 2, pp. 42-48) I presented a compilation of current entomological research projects being undertaken by post-graduate students in Australian Universities. Information from some of the Universities omitted from that list is now to hand. This is listed below together with some corrections to the previous list.

The final total of projects listed far exceeds my expectations when I set out to collate them, and indicates the healthy nature of entomology teaching in our Universities. Undoubtedly some relevant projects still remain to be listed and I would appreciate receiving details of these.

(Geoff Monteith)

GRIFFITH UNIVERSITY

School of Australian Environmental Studies

Ph.D.

Hill, C.J. Diversity of butterflies in various habitats.

Orr, A.G. Reproductive behaviour in Cressida cressida.

Scheermeyer, E. Overwintering ecology of danaine butterflies.

Rienks, J. Ecology of forest and domestic container breeding mosquitoes.

Lyonns, K. Comparative life history strategies in Cephrenes skippers.

Allsopp, P.G. Ecology of false wireworms, Pterohelaeus spp.

UNIVERSITY OF NEW SOUTH WALES

School of Zoology

M.Sc.

Anderson, P.J. Blowfly populations in the arid zone.

Nerona, E. Irradiation entomology.

Ph.D.

Brown, G. A revision of the Australian Thynninae (Hymenoptera : Tiphidae) with special reference to the genus Rhagigaster Cuerin.

Graham, D. Biological and toxicological studies on Chrysodeixus spp. (Lepidoptera : Noctuidae) and their parasite Litomastix eccelae (Hymenoptera : Encyrtidae).

UNIVERSITY OF NEW ENGLAND

Department of Microbiology

Dip. Sc. Ag.

Kelly, C. Environmental biology of the wingless grasshopper.

Bodnaruk, K. Monitoring traps for phytophagous mirids in cotton.

Gibson, R. Biological control and population dynamics of orchard mites.

B. Rur. Sc. (Hons.)

Sage, T. Comparison of pheromone traps for Heliothis armiger.

Morison, E. Pasture scarab numbers in relation to soil type and pasture improvement.

Zadro, P. Spatial distribution of predatory and pest mites in an orchard.

M. Rur. Sc.

Cahill, M. Resistance to synthetic pyrethroids in Heliothis spp.

Ph.D.

Rath, A. Aspects of the pathogenicity of Aspergillus flavus for the potato moth.

Department of Geography

M. Litt.

Waldock, E. Pests on wild apple trees growing on roadsides in New England.

Department of ZoologyHons.

Coombs, M. Some aspects of the biology of cicadas.

Luke, R. The effects of stream factors on the diversities and densities of aquatic insects in Dumaresq Creek.

M. Litt.

Lawson, V. Comparative study of litter fauna in a subtropical rainforest at Mt. Glorious, Queensland.

M.Sc.

Sullivan, P. Investigation of the cochineal insect, Dactylopius ceylonicus as a possible biological control agent of smooth tree pear, Opuntia vulgaris, in NSW.

Ph.D.

Sakurai, Y. Ant communities in dieback and non-dieback areas.

Department of Animal ScienceM. Sc. Agr.

Baffour-Awuah, O. Selection from synthetic populations (Drosophila).

M. Rur. Sc.

Brodbeck, P. Blowfly strike - predisposing causes.

Del Bosque, A. An experimental analysis of group breeding schemes (Drosophila).

Shi, Y. Transposable elements, mutation and responses to artificial selection (Drosophila).

Ph.D.

Banks, R.G. The effects of population structure on responses to artificial selection (Drosophila).

East, P.D. Biochemical genetics of two highly polymorphic esterases in Drosophila buzzatii.

Gifford, D.R. Effects of intense artificial selection for a quantitative character on genetic variability and selection responses (Drosophila).

McRae, T.A. Life history evolution in Tribolium castaneum.

Sweetnam, R. Variation of life history traits in a natural population of Tribolium castaneum.

CORRECTIONS TO PREVIOUS LIST

1. The project of Mr P. Nkunika at Waite Institute is a Ph.D. not M.Sc. as listed.
2. The project of J.M. Smith at ANU has changed to "Invertebrate grazing in a semi-arid environment".
3. For M. Rowell in the Department of Population Biology at ANU read David M. Rowell.

INSTITUTE OF BIOLOGY

The first Annual General Meeting of the Institute of Biology (IBA) was held in Sydney on 21 July, 1984. The objectives of the institute are to represent the profession in Australia, to promote education and research in biology, to improve communication between biologists, and to speak on behalf of qualified biologists by using their knowledge to advise all levels of government, other organizations, the community and individuals.

The Annual General Meeting heard the reports of the interim committee and elected officers and committee members. Prof Fred Milthorpe (Macquarie University) was elected as the first president of the IBA and Prof John Wade (La Trobe University) gave the inaugural address to the society.

Next year's Annual General Meeting will be held in Brisbane during the winter of '85.

Further information about the work of the IBA may be obtained from the Honorary Secretary:

Dr John Skidmore
New South Wales Institute of Technology
P.O. Box 123
BROADWAY NSW 2007

Paul Wellings
CSIRO Entomology, Sydney.

NEW LEGISLATION – SOME IMPLICATIONS FOR ENTOMOLOGISTS

On May 1st a new Federal Act, which has profound implications for all persons in Australia importing or exporting animals or plants, came into force. This is the Wildlife Protection (Regulation of Exports and Imports) Act 1982 and it brings in a situation where export of any native plant or animal (or part thereof) from Australia requires a permit. The wording and interpretation of the Act is extremely complex because it attempts to control all flora and fauna with respect to the disparate activities of scientists, collectors, commercial traders, zoos, circuses and many others. The Act is administered in conjunction with the Wildlife Protection (Regulation of Exports and Imports) Regulations. Penalties for breaches are extremely severe. If you have cause to export or import specimens for any reason it is essential that you familiarize yourself with the Act and its Regulations. These are obtainable from the Australian Government Publishing Service Bookshops in all capital cities for \$5.90 and \$1.00 respectively.

Below are compiled some notes regarding the operation and implications of the Act, as it affects entomologists.

Background to the New Act

In 1973 Australia was one of the original signatories to an international agreement called the Convention on International Trade in Endangered Species of Wild Fauna and Flora - Best known by its acronym CITES. CITES requires its signatory countries to control trade across their borders in species considered to be either endangered at present (Appendix I species) or likely to become endangered if trade is not controlled (Appendix II species). Signatories are required to adjust their own internal legislation so as to control such traffic of these species. Australia's new Act, passed by Parliament on December 31, 1982 but only now brought into force, is its attempt to comply with CITES.

There were previous controls of insect export under Regulation 13A of the Customs Act which sought to prevent deposition of Holotypes of Australian insects in Australian institutions. The new Act supercedes Regulation 13A which is now rescinded. The new Act still recommends return of Holotype to Australia but the term "where scientifically appropriate" is used (Regulation 10(1)c; 10(2) and 10(3)).

Administration of the New Act

The Act is administered by the Australian National Parks and Wildlife Service in Canberra. All applications for permits, and requests for information, forms, etc. should be addressed to: The Director, Australian National Parks and Wildlife Service, G.P.O.

Box 636, Canberra, ACT, 2601.

Coverage of the Act

The only insects listed in the CITES Appendices are the birdwing butterflies, viz Ornithoptera spp., Troides spp. and Trogonoptera spp. plus the European swallowtail, Parnassius apollo. These are the only species of which Australia is obligated under CITES to control inward and outward trade. Only two of them (Ornithoptera priamus and O. richmondia) occur in Australia, mostly in Queensland where both are protected by State law.

However, for reasons which are not clear and probably partly involve bureaucratic expediency, Australia has chosen to control export of all native flora and fauna.

In summary, the Act has two effects as regards insects:

Section 21 - prohibits export of the CITES butterflies mentioned above and all native Australian insects. (Note that this means that a specimen of a non-native Birdwing acquired from overseas before the Act came into force is now a prohibited export).

Section 22 - prohibits import of the CITES butterflies and live specimens of all other insects. (No import restrictions thus apply to dead specimens of species other than the CITES butterflies).

Permits may be granted to enable import or export of the species prohibited under Sections 21 and 22. Certain special institutions may be granted Authorities which enable them to issue their own internal permits. The conditions and procedures governing issuance of these Permits and Authorities occupies much of the Act. For normal insect specimens the conditions are usually that the specimens are either intended for scientific research or have been bred in captivity.

Registered Institutions and Authorities to Export

Certain institutions which fulfill conditions listed under Regulation 10 may be classified as Registered Institutions. Among these conditions are that they maintain permanent professionally curated scientific collections used for research and available to outside scientists. Once registered these institutions receive a code number and may apply for an Authority to Import and Export. This Authority qualifies them to receive stocks of stickers which can be either affixed to consignments of specimens being exported by the institution, or can be sent to overseas

consignors about to send specimens prohibited by the Act to the Australian institution. There are limitations on the use of these stickers (Section 41). They can only be used for dead specimens for scientific purposes, and only for transfers between two Registered Institutions whose respective Code Numbers must be cited on the label. This system obviously confers a good deal of autonomy on workers in Registered Institutions. However, the stickers issued under the Authority cannot be used if the Overseas institution is not Registered - in which case an individual Permit must be applied for from ANPWS in Canberra.

CSIRO and the State Museums have already become Registered and have stickers under their Authorities. It remains to be seen to what extent the various smaller insect collections in Universities, Agriculture Departments, Medical Institutions, etc. will gain Registration. Application for Registration should be made on Form R4.

Affiliation with a Registered Institution

Section 41(7) provides that outside workers may become Affiliated with a Registered Institution (in Australia or Overseas) if the institution wishes to foster their research. Such affiliates may then use the Institution's stickers to facilitate his own exports and imports. However, such affiliation is not automatic and under Section 41(8) the Institution must gain consent of the ANPWS Director in Canberra before accepting an affiliation application. An affiliate can, of course, only use the stickers to send dead specimens to another Registered Institution for the purposes of scientific research.

Permits

Persons not in Registered Institutions, and not affiliated with one must apply to ANPWS Canberra for individual Permits for export and import of specimens. A charge of \$10 is made for each Permit. For native insects the conditions (Section 31) for export Permits are that the specimens are either for "prescribed scientific research" or have been bred in captivity. "Prescribed scientific research" is defined in Section 4 as being carried out in "prescribed scientific organizations" - this means that persons not in institutions could not negotiate Permits for scientific purposes. A register is maintained by ANPWS of "prescribed scientific organizations". Criteria for registration (Regulation 10) include that the institution is non-commercial, has research as a major function and makes its results public. Application for registration is on Form R3.

It appears that the only way that private workers or those in non-registered institutions can export/import material for scientific purposes is by becoming affiliated with a Registered Institution.

Private Collections

Those worst affected by the new Act are individuals not in institutions who borrow, loan, donate, exchange, buy or sell material for reasons other than for formal scientific research. All these activities are defined under the Act as "commercial trade" and export of native insects in these circumstances is permitted only if the specimens are dead and were bred in captivity (Section 31). Except for a few butterfly collectors who breed fresh specimens, this Section of the Act appears to bring to an end the long tradition of local collectors who build up their collections by exchanging Australian specimens with other collectors overseas.

I would welcome correspondence on the new Act for the News Bulletin.

Geoff Monteith
News Bulletin Editor

ADVANCE NOTICE OF NEXT A.G.M.

The 16th Annual General Meeting and Scientific Conference of the Australian Entomological Society will be held at the University of Tasmania, Hobart on the 26th-30th May, 1985. Reasonably priced accommodation will be reserved at a residential college close to the venue.

Further details and enrolment forms will be included with the November News Bulletin when contributions of papers, posters and other exhibits will be called for. Queries, suggestions for session topics and other correspondence would be welcomed by the local organising committee: John Madden (University of Tasmania), Peter McQuillan, Margaret Williams, Rod Brieze-Stegeman and John Ireson (Tasmanian Department of Agriculture).

The 1985 Annual General Meeting does not clash with the 4th Australian Conference on Grassland Invertebrate Ecology at Lincoln College, New Zealand (13-17th May, 1985) which is to be followed by an insect pathology workshop and the 5th National Conference of the Australian Pathology Society (20-24th May in Auckland).

TAA operates a direct airlink Christchurch to Hobart on Saturdays and we may be able to negotiate a special fare on this route and an Auckland to Christchurch connection if there is a demand. TAA has been appointed as official carrier for the Conference.

SOCIETY PUBLICATIONS FOR SALE



1. THE ENTOMOLOGY OF CITRUS IN NEW SOUTH WALES. By P. C. Hely (1968). 20 pp. This account was originally delivered as the W.W.Froggatt Memorial Lecture. It gives a history of the development of pest problems in the NSW citrus industry, together with a review of the present situation and a list of pest species. Price: \$1.00.
2. CHANGING PATTERNS IN ENTOMOLOGY. Papers of a Symposium held in 1973 to celebrate the 50th anniversary of the Entomological Society of Queensland. An important historical publication which presents 9 papers summarising the history, development and future of entomology in eastern Australia. 70 pp. Price: \$3.00.
3. THE COLLECTION AND PRESERVATION OF INSECTS AND OTHER TERRESTRIAL ARTHROPODS. by M.S.Upton and K.R.Norris.(1980) 34pp. This is the fully revised and well-illustrated third edition of this popular handbook dealing with techniques involved in collecting and maintaining insect specimens. Price: \$2.50.
4. DIRECTORY OF AUSTRALIAN ENTOMOLOGY. This up-to-date and invaluable guide to the Australian entomological scene has names, addresses, research interests and institutional affiliations of 612 practicing Australian entomologists. Price: \$5.00.

Send orders to: Mr J.F.Donaldson, Business Manager, D.P.I.Entomology Branch,
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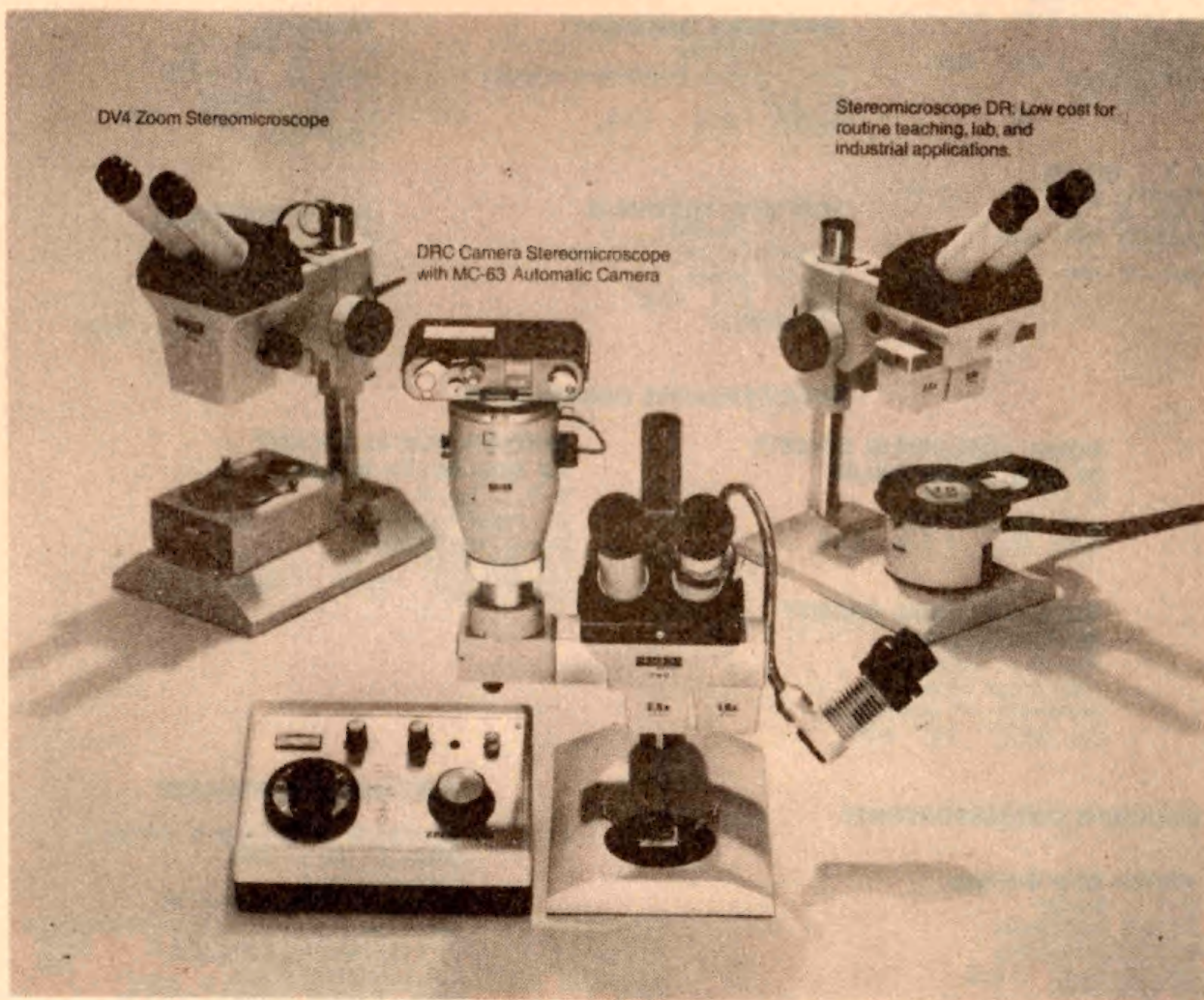
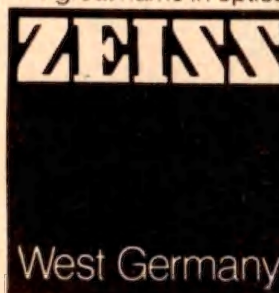
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NORTH RYDE. N.S.W. 2113.

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c/- Entomology Dept.
Australian Museum
P.O. Box A285
SYDNEY SOUTH. N.S.W. 2000.

OVERSEAS CORRESPONDENTS

PAPUA NEW GUINEA

Dr E.J. Brough
Biology Department
Box 320 University
PORT MORESBY. P.N.G.

NEW ZEALAND

Mr J. Tenquist
Wallaceville Animal Res. Centre
Private Bag
UPPER HUTT. N.Z.

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